



Deliverable 5.5

Final ASSIST Action Report



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 754051

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Document Information

| | | | |
|-------------------------------|--|----------------------------|--|
| Grant Agreement Number | 754051 | Acronym | ASSIST |
| Full Title | ASSIST - Support Network for Household Energy Saving' | | |
| Horizon 2020 Call | H2020 - Engaging private consumers towards sustainable energy | | |
| Type of Action | Coordination and Support Action | | |
| Start Date | 1 st May 2017 | Duration | 36 months |
| Project URL | www.assist2gether.eu | | |
| Project Coordinator | Marina Varvesi - AISFOR srl - Italy | | |
| Deliverable | D5.5 Final ASSIST Action Report | | |
| Nature | R - Report | Dissemination Level | P - Public |
| Work Package | WP5 | | |
| Lead Beneficiary | RSE | | |
| Responsible Author(s) | Simone Maggiore Anna Realini | E-mail | simone.maggiore@rse-web.it anna.realini@rse-web.it |

| History of changes | | | |
|--------------------|-------------|---------------|--------------|
| Release number | | Date of issue | Changes made |
| Rev.1 | First issue | 30/04/2020 | First draft |
| Rev.2 | | | |
| Rev. 3 | | | |

Table of contents

| | |
|---|-----------|
| 1. Presentation of ASSIST Project | 6 |
| 1.1 ASSIST overview and introduction..... | 6 |
| 1.2 “WP5 – ASSIST Action” | 6 |
| 1.3 Document overview and structure | 7 |
| 2. Belgium | 11 |
| 2.1 List of performed ASSIST Activities | 11 |
| 2.2 Summary of HEAs training and activities | 12 |
| 2.3 Summary of Soft/engagement activities | 13 |
| 2.4 Summary of ASSIST Actions | 16 |
| 2.4.1 Summary of results..... | 17 |
| 2.5 Summary of Synergies | 19 |
| 2.6 Conclusions..... | 20 |
| 3. Finland..... | 23 |
| 3.1 List of performed ASSIST Activities | 23 |
| 3.2 Summary of HEAs training and activities | 24 |
| 3.3 Summary of Soft/engagement activities | 24 |
| 3.4 Summary of ASSIST Actions | 25 |
| 3.4.1 Summary of results..... | 26 |
| 3.5 Summary of Synergies | 28 |
| 3.6 Conclusions..... | 28 |
| 4. Italy | 30 |
| 4.1 List of performed ASSIST Activities | 30 |
| 4.2 Summary of HEAs training and activities | 31 |
| 4.3 Summary of Soft/engagement activities | 32 |
| 4.4 Summary of ASSIST Actions | 35 |
| 4.4.1 Summary of results..... | 36 |
| 4.5 Summary of Synergies | 38 |
| 4.6 Conclusions..... | 39 |
| 5. Poland..... | 40 |
| 5.1 List of performed ASSIST Activities | 40 |
| 5.2 Summary of HEAs training and activities | 40 |
| 5.3 Summary of Soft/engagement activities | 41 |
| 5.4 Summary of ASSIST Actions | 42 |
| 5.4.1 Summary of results..... | 43 |
| 5.5 Summary of Synergies | 45 |
| 5.6 Conclusions..... | 46 |
| 6. Spain..... | 47 |
| 6.1 List of performed ASSIST Activities | 47 |

| | | |
|-----------|---|-----------|
| 6.2 | Summary of HEAs training and activities | 48 |
| 6.3 | Summary of Soft/engagement activities | 49 |
| 6.4 | Summary of ASSIST Actions | 54 |
| 6.4.1 | <i>Summary of results</i> | 59 |
| 6.5 | Summary of Synergies | 61 |
| 6.6 | Conclusions..... | 63 |
| 7. | United Kingdom | 66 |
| 7.1 | List of performed ASSIST Activities | 66 |
| 7.2 | Summary of HEAs training and activities | 66 |
| 7.3 | Summary of Soft/engagement activities | 67 |
| 7.4 | Summary of ASSIST Actions | 69 |
| 7.4.1 | <i>Summary of results</i> | 69 |
| 7.5 | Summary of Synergies | 71 |
| 7.6 | Conclusions..... | 71 |
| 8. | Final considerations | 73 |

1. Presentation of ASSIST Project

1.1 ASSIST overview and introduction

ASSIST is a 36-months European “market activation and policy orientation” project to tackle fuel poverty and support vulnerable consumers. It intends to actively engage consumers in the energy market and positively change behaviour in relation to energy consumption and to influence design of policy at all levels to tackle fuel poverty issues.

Based on the conclusion of the Energy Citizens’ Forum and of the European Vulnerable Consumers Working Group, the project intends to combine activities addressing both energy and social dimensions as fuel poverty is not only an energy issue nor can it be tackled in isolation of the bigger issue of poverty. More specifically, ASSIST strategic objectives are to contribute to:

- ✿ tackle energy poverty;
- ✿ reduce the main barriers of the energy market faced by vulnerable consumers;
- ✿ support vulnerable consumers to be more efficient with their domestic energy consumption (electricity and gas).

To fulfil its goals, the project foresees diversified and correlated research, networking and in-field actions, consistent with the relevant national and European scenarios. Among them, ASSIST intends to create a network of innovative professional figures supporting vulnerable consumers in their domestic energy consumption: “**Home Energy Advisor (HEA)**”.

1.2 “WP5 – ASSIST Action”

The fifth work package aims to design, implement and evaluate innovative support services for vulnerable consumers/energy poor on a country based level with a market-oriented and flexible approach (as recommended “projects based on behaviour change and efficiency should align with existing local initiatives”), through the implementation of pilot actions. The actions will be defined at National level with the support of the National Steering Committee and on the basis of the results of the national context analysis carried out in WP2 and of the market segmentation carried out at the beginning of the work package. The ASSIST actions will address 4,500 vulnerable consumers (750 per country). The tasks foreseen in the work package include:

- ✿ Market segmentation, that aims at assigning vulnerable consumers in market groups with common characteristics. It will act as a driver for the design of the actions;
- ✿ Designing, initiating and delivering the actions in each country;
- ✿ Evaluation of results: in order to assure reaching the set objective and performance indicators, the partners will closely monitor the development of and results achieved within the action.

1.3 Document overview and structure

This document is the final result of WP5. The main goal of this WP is to design and carry out a series of concrete activities on the field (called ASSIST actions) to support vulnerable consumers and assess their effectiveness through suitable indicators defined on purpose.

The ASSIST actions (which are detailed in the ASSIST Action Plan (D5.2) and ASSIST Action Report (D5.4) for each country) have been designed with the contribution of the National Vulnerable Consumers Steering Committee (VCSC) (WP7) and building on the results of:

- previous work packages, mainly on the evidence collected in the in-depth analysis (WP2), outcomes of the training (WP3) and managing of the Homes Energy Advisors (HEA) network (WP4);
- market segmentation specifically carried out at the beginning of this workpackage;
- literature (i.e. EAA Report “Achieving Energy Efficiency through Behaviour Change”);
- direct experiences of the partners in energy efficient pilot actions (such as SMART-UP by AISFOR and ECOSERVEIS, “Energia su Misura” by RSE).

The design of the ASSIST actions had the scope to define objectives, success criteria and foreseen activities (tasks scheduling, monitoring processes, foreseen objectives and outputs, etc.).

The first activity related to tackling energy poverty is the engagement of vulnerable consumers, that not always are already involved in structured programmes. To do so, engagement strategies are a crucial preliminary step that can lead to the development of concrete pilot actions.

Moreover, some actions are implemented directly by ASSIST project, but they remain closed in the domain of behavioural actions. However, since there are several programmes and projects both related to energy poverty and energy efficiency in the residential sector, when it is possible, ASSIST actions are designed in cooperation with these project, in order to achieve better results.

The final and updated structure of the ASSIST activities is shown in Figure 1.



Figure 1: ASSIST activities and actions.

Soft/engagement activities are defined as general events where participants receive advice in the form of “factsheets” or similar material, that can lead to smaller energy savings, mostly related to simple behavioural actions. Examples of factsheets that can be distributed are those related to tips on how to optimize electrical appliances use, how to improve heating systems controls, etc..

These activities have not be counted as “ASSIST actions” in the sense that their results have not been directly measured and thus have not contributed in reaching the project target of 7% energy savings. Such activities have been considered in the goal of reaching 2,000 consumers for which a 2% energy saving has been conservatively estimated.

Actions, on the other hand, are those activities aiming to reach the project target of 7% energy savings. On the basis of the specificities of local contexts, the type and number of trained HEAs and the characteristics of vulnerable consumers in the different countries, each partner has decided to implement different types of actions, such as home visits, help desks consultancy o customized calls, for example. During the actions, a series of suggestions have been given to the vulnerable consumers by the HEAs, in a customized way in order to consider their household structure and habits, the dwelling type, their current access to financial or other support mechanisms, etc... These suggestions, where possible, have been integrated with other support activities, such as the request of financial measures or the identification of a more convenient energy contract.

The goal was to engage at least 750 vulnerable consumers in each country and allow them to obtain a 7% of energy savings in their domestic consumption with respect to the situation prior to the implementation of the different actions (called “baseline”).

The actions are characterized by the use of a questionnaire or other means to establish a baseline and by a deep follow-up, performed in a later stage (at least after 6 months), in order to monitor the results (more details will be provided later in this paragraph).

In addition to the above described activities, there can be interactions with other projects that do not necessary fall into the identified categories of Soft/engagement activities or actions: they have been called **Synergies** and a 2% energy saving has been conservatively estimated for them too.

Deliverables D5.4 and D5.3 have reported the current status of implementation of the activities in the different countries, respectively, up to the mid of the project (month 18) and up to the end of January 2020 (month 33), with a focus on HEAs involvement, reached consumers and performing a SWOT analysis of each of them, highlighting the various strength, weakness and replicability factors for each action in order to facilitate and promote (where possible and where convenient) the replicability of the national actions also in other contexts outside the ASSIST framework and beyond its duration. Moreover, any misalignments with the original actions plans (shown in D5.2 and D5.4) in the different countries have also been highlighted and justified in D5.3.

This document represents the final updated report of all the activities carried out within the ASSIST project framework up the end of project: all the activities which have already been completed by the end of January 2020, will be briefly shown here, because they have already been described in detail in D5.3; on the other hand, the remaining activities, which were only partially completed and/or still ongoing at the time of the issuing of D5.3, will be presented in this document in detail for each country.

It is important to point out the difficulty to monitor HEAs' activities and that the information in this report are, cautiously, only those coming from HEAs' written or online reports, as requested by the project requirements; in fact, besides reported activities, many HEAs have also performed other activities which have not been reported by them to project partners for several reasons (such as, for example, lack of time, money or forgetfulness): such activites have not been reported in this document as there is not enough evidence to fully describe them and prove the actual number of reached/engaged consumers.

With regard to the monitoring of the implemented actions, we have considered a two-fold monitoring process: a more general one addressing all the engaged consumers through any of the ASSIST activities (at least 750 consumers for each country) and a specific one using a small group of the consumers addressed in the action (at least 10% of all the engaged consumers, thus leading to a small group with at least 75 consumers for each country).

The small group has been considered as a “reference group” and their energy consumption data have been directly collected by the partners during the course of the implemented actions (through, for example, telephone calls, detailed questionnaires and energy bills).

This two-fold mechanism has enabled us to verify if the specific and detailed data collected through the monitoring of the “reference group” is in line with the data collected about all the engaged consumers and therefore assess if their data may be considered significant and reliable to analyse the results and impact of the action.

Using these data, we have calculated, for each country, two overall indicators for the ASSIST project: the ASSIST Energy Savings Indicator (ESI) and the Vulnerability Empowerment Factor (VEF); the former assesses the actual energy saved by the engaged vulnerable consumers, their increased comfort inside their homes and, more in general, the quality of their lives, while the latter assesses consumers’ confidence in dealing with energy related issues inside their dwellings. These indicators, therefore, represent a gauge of the effectiveness of the ASSIST approach to reach the desired targets and consumers’ satisfaction level of the carried actions.

The methodology to calculate the above mentioned indicators can be found in chapter 4 of D4.4.

In order to take into account the different characteristics of the involved consumers, the calculation of the ESI and the VEF have been performed taking the following parameters into account¹:

- Household size;
- Building type;
- Heated space;
- Heating system.

The underpinning concept of the monitoring mechanism, as it is explained more in detail in D4.4, is that both the objective of the 7% energy reduction is extremely ambitious for the target of vulnerable consumers of the project and that energy savings should be considered in relation to both a genuine comfort level in the household (i.e. that the temperature in the household is perceived comfortable by the inhabitants) and take in to consideration average consumptions levels in households of the same country, since it is expected, that many vulnerable customers are already saving on their energy costs to save money.

To make the work easier and to allow a solid comparison among the results obtained in the different countries, RSE has created a customized software program (based on the Microsoft Excel program) which allowed the partners to automatically perform all the calculations according to the common methodology defined in chapter 4 in D4.4: this

¹ i.e. consumers have been grouped according to each parameter (household size, building type, heated space and heating system) and then the calculations of the ESI and the VEF have been performed on each group.

customized software program uses the files downloaded from the Moddle platform (in *.csv format) and automatically processes them in a standardized and harmonized way in order to obtain the ESI and the VEF as outputs.

The results of each actions, in terms of the above mentioned indicators, will be presented in this document for each country, while a more in-depth analysis of the numbers will be performed in D4.7.

It is important to note that the Energy Savings Indicator (ESI) does not represent the actual amount of energy saved thanks to the ASSIST actions but it is just a mathematical indicator created to take into account not only the energy savings but also other aspects, such as the the comfort inside vulnerable consumers' homes and their money savings, which are important to provide a comprehensive picture of the interaction with vulnerable consumers: the ESI thus combines these three items into one indicator to give an overall number proving the effectiveness of the ASSIST actions.

In order to avoid misunderstanding, we have decided to show also the actual amount of energy savings (both in kWh and in percentage (%)) for each country.

2. Belgium

2.1 List of performed ASSIST Activities

A summary of all the activities (Soft/engagement activities, Actions and Synergies) successfully carried at the Belgian level is shown in the table below, with the width of consumers reached through these activities and the number of HEAs delivering the activities. The details about HEAs who have been responsible for each activity is reported in the next paragraphs. As already said in the introduction, all the activities already finished by the end of January 2020 will be briefly summarized in the next paragraphs (all the details can be found D5.3); on the other hand, the remaining activities, which were only partially complete and/or still ongoing at the time of the issuing of D5.3, will be presented in detail in the next paragraphs. Finally, the results of each action, in terms of the Energy Savings Indicator (ESI) and the Vulnerability Empowerment Factor (VEF), will be presented in this chapter, while a more in-depth analysis of the numbers will be performed in D4.7:

| Type of activity | Number of HEAs delivering the activity | Number of households /consumers reached |
|---|--|---|
| <i>Soft/engagement activity #1</i> → Home visits and dedicated consultancy by Energy Cutters | 150 | 18,000 households |
| <i>Soft/engagement activity #2</i> → Energyfit workshops for vulnerable consumers | 800 | 136 households |
| <i>Soft/engagement activity #3</i> → Fluvius meter readers give advice | 250 | 16,800 households |
| <i>Soft/engagement activity #4</i> → Flex mail with energy saving tips | 1 | 6,000 households |
| <i>Action #1</i> → Home visits and dedicated consultancy by HEAs | 44 | 300 households |
| <i>Action #2</i> → Helpdesk counseling | 250 | 168,000 households |
| <i>Synergy #1</i> → Existing network of Energy Cutters | 150 | 18,000 households ² |
| <i>Synergy #2</i> → Samenlevingsopbouw | 3 | 65 households ³ |
| <i>Synergy #3</i> → Kamp C | 10 | 25 households ³ |
| <i>Synergy #4</i> → Information sessions for employees of Public Centers of Social Welfare (OCMW ⁴) | 804 | 136 households ⁵ |

² These households have already been included in *Soft/engagement activity #1*.

³ These households have already been included in *Action #1*.

⁴ OCMW stands for "Openbaar Centrum voor Maatschappelijk Welzijn" in Dutch.

⁵ These households have already been included in *Soft/engagement activity #2*.

2.2 Summary of HEAs training and activities

In total, there are **76 fully-trained HEAs** (volunteers who completed all the modules of the HEA training successfully), of which 44 are actively working as HEAs in implementing the ASSIST activities.

In addition, **150 Energy Cutters** and **250 meter readers** followed, respectively, two modules and one module of the ASSIST training. The network of the Energy Cutters already exists since 2008 and, on 24/05/2019 and 07/06/2019, the Energy cutters followed 2 modules of the HEA training (Module 9 “Relational skills” and Module 10 “Protection and prevention”). The meters readers followed Module 6 “Energy behavior support”.

As the Energy Cutters and meter readers did not follow the complete HEA training, they were not involved in the implementation of the ASSIST actions and they were only involved in the implementation of the Soft/engagement activities.

We also organised 6 information sessions on energy consumption, energy saving measures, energy bill and the use of the Woonmeter for social workers of the Public Centers for Social Welfare (OCMW). Dates and places of information sessions for OCMW are shown below:

- 5/11/2019: Affligem;
- 7/11/2019: Kuurne;
- 12/11/2019: St-Niklaas;
- 14/11/2019: Hasselt;
- 19/11/2019: Kasterlee;
- 21/11/2019: Oostkamp.

These information sessions had two objectives: on the one hand, to train social workers of the OCMW so that they could inform vulnerable clients about their energy consumption, comfort level and energy bills during their regular home visits; on the other hand, the OCMW had to invite their vulnerable clients to the Energyfit workshops and support to implementation of these workshops (Soft/engagement activity #2). And of course, it is much easier to convince the vulnerable households to register for workshops if they know what the aim of the workshops is in advance. These information sessions were co-organised concurrently with the Fluvius-OCMW annual meeting, which immediately explains the high attendance. This is, in fact, an ideal scenario: organise an information session on energy-efficiency back-to-back with another event for which a high attendance is guaranteed.

A summary of the activities for which the HEAs are responsible and they have carried out is reported in the table below. More information about the different organisations involved in the ASSIST activities can be found in D3.3 and D3.4.

| Number of Trained HEAs per type | Type of training | Number of active HEAs | HEAs activity |
|--|-----------------------------|--|--|
| 8 social workers (from OCMW and from Samenlevingsbouw) | All modules of HEA training | 7 (4 from OCMW and 3 from Samenlevingsbouw) | Action #1 Synergy #2 Synergy #4 |
| 42 from energy companies (Fluvius + Vito) | All modules of HEA training | 27 | Soft/engagement activity #4 Action #1 |
| 21 from Charity (Energy Masters of | All modules of HEA training | 10 | They did not perform any Soft/engagement activities. |

| | | | |
|-----------------------------------|---|-----|---|
| Kamp C ⁶) | | | They are already active as a volunteer and did not find enough time to do additional volunteer work as HEAs. Action #1 Synergy #3 |
| 6 retired people | All modules of HEA training | 0 | They all stopped their HEA activities, mainly due to illness. |
| 150 Energy Cutters | 2 modules of HEA training (in addition to the training already followed as Energy Cutter) | 150 | Soft/engagement activity #1 Synergy #1 |
| 250 meters readers | 1 module of HEA training | 250 | Soft/engagement activity #3 |
| 800 social workers of OCMW | 6 Information sessions | 800 | Soft/engagement activity #2 Synergy #4 |
| 250 helpdesk employees of Fluvius | No training in context of ASSIST project | 250 | Action #2 |

2.3 Summary of Soft/engagement activities

In total, 5 Soft/engagement activities were carried out. The geographical distribution was quite uniform, as there were both activities carried out at the national level on the whole territory of Flanders (one of the 3 Regions in Belgium) and activities implemented at the local level (municipalities in Flanders). Moreover, both larger cities (such as Hasselt, Sint-Niklaas) and smaller cities (such as Lede, Houthulst) were involved. Thus, the reached consumers can be considered quite representative of the whole Flemish population. The table below shows a summary of all the Soft/engagement activities. A detailed description of the Soft/engagement activities can be found in D5.3.

| Soft/engagement activity | Number and Type of Involved HEAs | Number of households/ consumers reached | Dates and place |
|--|----------------------------------|---|---|
| #1 → Home visits and dedicated consultancy by Energy Cutters | 150 Energy Cutters | 18,000 households | July 2019 – March 2020 (Flanders) |
| #2 → Energyfit workshops for vulnerable consumers | 800 social workers of OCMW | 136 households | 17/10/2019 (Herk-de-Stad) 21/10/2019 (Herk-de-Stad) 20/11/2019 (Sint-Niklaas) 12/12/2020 (Sint-Genesius-Rode) 20/01/2020 (Beringen) 20/01/2020 (Heers) 21/01/2020 (Petegem) 21/01/2020 (Houthulst) |

⁶ Kamp C is an autonomous company of the Province of Antwerp, it is the centre for sustainable building.

| | | | |
|---|-------------------------|-------------------|--|
| | | | 04/02/2020 (Lede) 18/02/2020 (Zelzate) 20/02/2020 (De Kempen) 03/03/2020 (Opwijk) |
| #3 → Fluvius meter readers give advice | 250 meters readers | 16,800 households | December 2019 – March 2020 (Flanders) |
| #4 → Weekly flex mail with energy saving tips | 1 from energy companies | 6,000 households | September 2019 – November 2019 (Flanders) |

The most successful Soft/engagement activities in terms of the number of households/consumers reached are the home visits of the Energy Cutters (18,000 households) and energy saving tips of the meter readers (16,800 households):

- **Home visits and dedicated consultancy of the Energy Cutters:** the Energy Cutters are employed as part of the social economy. They visit vulnerable consumers during working hours, do an energy scan and give them advice on how to reduce their energy consumption and their energy bill.
- **Fluvius' meter readers:** we noticed that one of the biggest problems of helping vulnerable households is to get in touch with them. They are often ashamed or don't know where to turn for help. The Fluvius meter readers visit already the families when they can't pay their bills, they take the meter readings and remind the families to pay their bills. So the meter readers are already in the customer's home and they give now also a few energy-saving tips. They distribute a flyer with energy-saving tips and the contact details of the Energy Cutters. They will continue to do so, even after the ASSIST project has stopped. The first flyers will be provided in the context of the ASSIST project, but after the project has finished there will be a budget provided by Fluvius.

The most successful Soft/engagement activities in terms of qualities of both the conveyed messages and the obtained results are the **Energyfit workshops** for vulnerable consumers in collaboration with the Public Centers for Social Welfare (OCMW) and Ecolife⁷. Ecolife and Fluvius developed the "Energyfit" workshops: the content and methodology are completely tailored to the needs of vulnerable consumers. In this interactive workshop, for example, pictures of four rooms in the house are shown, as you can see in the figure below.

The OCMW took care of the invitations and the location for the workshop, while the ASSIST project provided the teacher, teaching materials and a woonmeter for each participant. However, the OCMW must guarantee a minimum of 10 participants: in order to reach this attendance, they had to invite 2 to 3 times as many as it was not easy to get vulnerable clients in one location for an information session. It helped enormously that there was a nice present that they could take with them after the workshop, namely the "woonmeter". The reactions of both the vulnerable consumers as well as the OCMW were all very positive. This kind of sessions have the advantage that they are tailored to needs of the vulnerable consumer. They are very practical and participants can share their real life experiences in a very interactive way.

⁷ Ecolife is a knowledge center for ecological footprinting and behavioural change. Ecolife supports governments, organisations and companies to achieve their ecological objectives. They develop tools and scans to measure ecological impact and guide change processes in organisations with employees and other stakeholders. Ecolife develops also tailor-made sustainability campaigns and offers workshops on sustainability.

The workshop facilitator discusses about the consumption of electrical and heating appliances and the effect of energy-efficiency measures on the energy bill. The participants search for appliances and activities that consume the largest amount of energy, discuss how they can use them efficiently and give each other tips. On a leaflet the participants indicate the energy-efficiency actions that they want to implement in their homes. After the workshop, each participant receives a woonmeter to use at their home.



Figure 1: example of material used in Energyfit workshop for vulnerable consumers.

The last Soft/engagement activity was also successful as it allowed us to reach 6,000 households:

- **Flex mail with energy saving tips:** the department PR & Communication of Fluvius worked out a marketing campaign with energy saving tips. During 10 weeks, a weekly mail was sent to 40,000 vulnerable customers. The communication was very interactive and included a contest. Each mail had a very attractive and often playful photo with a statement to illustrate the energy saving tip (e.g. "lower the temperature setting by 1 degree less = 7% saving"). Consumers could vote with a "yes" and "no" button if they agreed with the statement. When they pressed the button, they got the right answer with some more energy saving tips. From the right answers, a few names were drawn and these "winners" got a woonmeter with some extra information about energy saving measures. Each week there were approximately 6,000 answers. This is a high response rate of approximately 15%.

Alle the Soft/engagement activities carried out at the Belgian level have led to the successful address of 40,936 households or **102,340** vulnerable consumers (we assumed that the average number of vulnerable consumers per household in Belgium is equal to 2.5) and we have estimated a **2%** energy saving (although it was not monitored) for each involved family, with respect to their previous situation, thanks to the advice received during the course of the ASSIST Soft/engagement activities.

2.4 Summary of ASSIST Actions

The full description of Action #1 can be found in D5.3 as the most of the action has been completed before the end of January 2020. Action #2, on the other hand, was not completed before the end of January 2020: a detailed description of such actions can be found in the box below.

Action #2 : Help Desk counselling for vulnerable consumers

Fluvius has a very well functioning Helpdesk, already operational before the start of the ASSIST project, where all Flemish people can turn to with all their energy related questions. There are 2 categories of consumers/questions that are relevant in the frame of the ASSIST project, namely questions about energy-efficiency and questions that vulnerable customers have about their energy bill, budget meter, etc.. The Helpdesk gets approximately 100,000 calls per month of which app. 2,000/3,000 calls about rational energy use and approximately 14,000 calls from vulnerable consumers.

The Helpdesk has a specific procedure for gathering and processing information which differs from the approach that was suggested in frame of the ASSIST complaint database (WP 6). As it was not possible to adapt the procedures of the Helpdesk, we agreed with on a minimum range of data to be collected and processed in frame of the ASSIST project:

- FAQ REG (Rational Energy Consumption): premiums to promote energy-efficient behaviour;
- FAQ Energy meter: borrow energy meter to monitor your consumption;
- FAQ Household energy scan: energy savers visiting vulnerable customers to carry out free energy-scan, energy saving tips + small appliances to save energy (LED lamps, energy saving shower head);
- Overview premiums 2019: <https://www.fluvius.be/nl/thema/premies>;
- Energy labels;
- FAQ DROP: consumers with payment problems are dropped by regular energy suppliers and transferred to Fluvius as a social energy supplier;
- FAQ Social Tariff: in Belgium, certain groups are entitled to a reduced tariffs;
- FAQ Charging terminal: all possible problems with charging of budget meters.

As the Helpdesk was already operational and well-functioning, no additional actions were undertaken in framework of the ASSIST project and, therefore, the number of involved HEAs and of households reached during the course of the project are not taken into account in the results of the project.

A summary of the actions carried out can be found in the table below.

| ASSIST actions | Number and Type of Involved HEAs | Number of households reached | Dates and place |
|---|--|------------------------------|---|
| #1: Home visits and dedicated consultancy by HEAs | 7 social workers (4 from OCMW and 3 from Samenlevingsopbouw), 27 from energy companies (Fluvius and VITO) and 10 from Charity (Energy Masters of Kamp C) | 300 households | March 2019 – February 2020 (Flanders) |
| #2: Helpdesk counselling | 250 helpdesk employees from energy company (Fluvius) | 168,000 households | Continuously during the whole project duration (Flanders) |

2.4.1 Summary of results

The ASSIST **Energy Savings Indicator (ESI)** and **Vulnerability Empowerment Factor (VEF)** have been calculated according to the methodology defined in chapter 4 in D4.4 and briefly summarized in the introduction of this document.

The calculations have been performed on the reference group of 75 households or **182** consumers (representing about **25%** of the monitored consumers), then they have been extended to the entire group of **714** engaged consumers through the ASSIST actions at the Belgian level (Action #1).

Finally, the calculations have been combined in order to obtain two overall indicators for the ASSIST project: in Belgium, we have decided to assign an equal weight to each parameter (25% each, as there are four parameters), because, from our experience on the field in the Belgian context, no predominant factor related to energy savings and comforts exist for vulnerable consumers. The results are shown in the tables below.

| Household size | |
|-------------------------------------|------|
| Average ESI (182 consumers) | 3.8% |
| Average ESI (714 consumers) | 3.8% |
| Weighted ESI | 1.0% |
| Average VEF (182 consumers) | 0.9 |
| Average VEF (714 consumers) | 0.9 |
| Weighted VEF | 0.2 |

| Building type | |
|-------------------------------------|------|
| Average ESI (182 consumers) | 4.0% |
| Average ESI (714 consumers) | 4.0% |
| Weighted ESI | 1.0% |
| Average VEF (182 consumers) | 0.9 |
| Average VEF (714 consumers) | 0.9 |
| Weighted VEF | 0.2 |

| Heated space | |
|-------------------------------------|------|
| Average ESI (182 consumers) | 4.0% |
| Average ESI (714 consumers) | 4.0% |
| Weighted ESI | 1.0% |
| Average VEF (182 consumers) | 0.9 |
| Average VEF (714 consumers) | 1.0 |
| Weighted VEF | 0.2 |

| Heating system | |
|-------------------------------------|------|
| Average ESI (182 consumers) | 3.9% |
| Average ESI (714 consumers) | 3.9% |
| Weighted ESI | 1.0% |
| Average VEF (182 consumers) | 0.9 |
| Average VEF (714 consumers) | 0.9 |
| Weighted VEF | 0.2 |

| FINAL RESULTS | |
|--|------|
| Overall ASSIST Energy Savings Indicator (ESI) | 3.9% |
| Overall Vulnerability Empowerment Factor (VEF) | 0.9 |

Thanks to the ASSIST action, the engaged vulnerable consumers were able to reduce their energy consumption and to improve the comfort in their homes.

On average a 7% reduction of the gas consumption is achieved (or 1,000 kWh of gas) and a 7% reduction of the electricity consumption (or 272 kWh of electricity) per vulnerable household. The total amount of gas and electricity saved at the Belgian level amounts to 99,060 kWh.

However, these results have to be interpreted carefully. The energy savings realized by the different energy-efficiency measures had to be estimated as we were not able to monitor the real impact of the action at the homes of the vulnerable consumers. We could not rely on digital meters for the collection of data to monitor the impact of the implemented energy-efficiency measures as Belgium has only started recently with the distribution of smart meters. We asked the HEAs to collect ex-ante and ex-post meter readings as a proxy of the annual energy consumption after implementation of the energy-efficiency measures. However, a limited number of data was collected by the HEAs (mainly due to confidentiality issues and administrative burdens). Also, for the majority of the vulnerable consumers, the ASSIST action started in July and, as such, the period of monitoring was not considered representative. Energy consumption for domestic heating represents a share of 60% of the total energy consumption of an average Flemish household and the coldest months of the year are mainly outside the monitoring period.

Fluvius made an estimate of the amount of fuel and/or electricity that can be saved for a list of more than 60 energy-efficiency measures. The potential energy savings per measure are an expert judgement based on several years of experience of Fluvius in the field of energy-efficiency. If a household implemented several efficiency-measures, we did not take into account the interaction between the measures; besides, we considered the estimated impact as 100% realized (e.g. all light bulbs replaced by LED while in reality perhaps 50% of the light bulbs are replaced). As such, the estimate of the impact is most likely overestimating instead of underestimating the real impact.

An energy savings indicator (ESI) of 3.9% can be considered a satisfactory level, as vulnerable consumers already have very low annual consumption: the average gas consumption of the 20 vulnerable households living in an apartment is 9,500 kWh, while an average Flemish household has a gas consumption of 17,000 kWh; the average gas consumption of the 47 vulnerable households living in a house is 15,400 kWh, while the average household has a gas consumption of 23,000 kWh. As such, the potential to achieve additional energy savings, without recurring to intrusive intervention (such as for example, adding thermal insulation or replacing the heating boiler with a more efficient one), is quite limited. Also, the Belgian ESI indicator does not take into account the impact of lower energy prices as the majority of the vulnerable households engaged in the ASSIST action already have a social tariff (i.e. lowest tariff on the market). For 23 of the 75 vulnerable households (31%) there was an increase in the comfort level. The impact is considered limited as, on average, the vulnerable households considered the level of comfort already more than acceptable (score of 4 out of 5) before the energy-efficiency measures were implemented.

Also the positive value of the vulnerability empowerment factor (VEF), although not very large, can be considered acceptable. The home visits and dedicated advice had a positive impact on the awareness about energy saving measures and different tariffs. The vulnerable consumer felt more empowered to find information about energy-efficiency measures and help others to reduce their energy bill. While the average consumer felt sometimes empowered at the beginning of the monitoring period, he/she felt often empowered at the end of the monitoring period.

The data collection method and the data analysis are described in more detail in D4.7.

2.5 Summary of Synergies

Synergies are activities carried out as interactions with other projects/networks which were already ongoing and for which a collaboration was deemed feasible and bringing added value both to the original project/network and to the ASSIST project. In total, 4 synergies were carried out at the Belgian level in collaboration with the following entities: the existing network of the Energy Cutters, Samenlevingsopbouw, Kamp C and the Public Centers of Social Welfare (OCMW).

The table below summarizes the synergies carried out at the Belgian level, while the details about them can be found in D5.3.

| Synergy | Number and Type of Involved HEAs | Number of consumers reached | Dates and place |
|--|--|---|---|
| #1: Existing network of Energy Cutters | 150 Energy Cutters | 18,000 households (see Soft/engagement activity #1) | July 2019 – March 2020 (Flanders) |
| #2: Samenlevingsopbouw | 3 social workers (from Samenlevingsopbouw) | 65 households (see Action #1) | March 2019 – February 2020 (Flanders) |
| #3: Kamp C | 10 from Charity (Energy Masters of Kamp C) | 25 households (see Action #1) | March 2019 – February 2020 (Region of the Kempen, Flanders) |
| #4 → Information sessions for employees of Public Centers of Social Welfare (OCMW) | 804 social workers from OCMW | 136 households (see Soft/engagement activity #2) | 17/10/2019 (Herk-de-Stad) 21/10/2019 (Herk-de-Stad) 20/11/2019 (Sint-Niklaas) 12/12/2020 (Sint-Genesius-Rode) 20/01/2020 (Beringen) 20/01/2020 (Heers) 21/01/2020 (Petegem) 21/01/2020 (Houthulst) 04/02/2020 (Lede) 18/02/2020 (Zelzate) 20/02/2020 (De Kempen) 03/03/2020 (Opwijk) |

The cooperation with **Samenlevingsopbouw** (social workers), **Kamp C** (Energy Masters) and the Public Centers for Social Welfare (**OCMW**) (social workers) helped us in engaging vulnerable consumers for delivering the ASSIST activities. The social workers and Energy Masters who completed the HEA training successfully and were active as HEAs, also supported the implementation of the Action #1.

Especially the cooperation with Samenlevingsopbouw was very successful. There was an extensive exchange of information that was interesting for both parties. As the HEAs from Samenlevingsopbouw already had a good and trustful relationship with vulnerable consumers (as part of their job as social worker), they managed to do more home visits per HEA than the HEAs from the energy sector and obtained more data from their home visits.

Kamp C is the Center for Sustainable Building that supports the activities of the Energymasters in the region of the Kempen in Flanders. The Energy Masters are volunteers that give energy advice to households. However, they do not specifically target energy poor households and are only operational on a small geographical scale (Kempen). As such, the added value of the ASSIST project was that the Energy Masters received a specialised training in targeting households in energy poverty. They also received extra information and tools (e.g. Woonmeter) to not only reduce energy consumption and related costs but also to increase the comfort level of the vulnerable households they visit.

As already mentioned, we also worked together with the OCMW for delivering the Soft/engagement activity #2 (Energyfit workshops). The added value for the OCMW was that they could participate in an information session on energy consumption, energy saving measures, energy bill and the use of the Woonmeter and can apply the lessons learned in their contacts with vulnerable clients.

The added value of this cooperation with Samenlevingsopbouw, Kamp C and the OCMW was that they gained insights in the energy consumption and comfort of their clients and potential actions to reduce their energy bill and increase their comfort level.

The cooperation with the existing network of the **Energy Cutters** (supported by Herwin⁸) helped us in engaging vulnerable consumers for delivering the ASSIST action. By involving the existing network of Energy cutters we were also able to test the training material extensively as the energy cutters visit 2,000 households per month. We learned that modules on relational skills and protection were currently missing in the training program of the Energy cutters and were considered very valuable. As a result, the extra modules were also included in the training program for new Energy cutters. So the added value for the existing network of the Energy cutters was that they got an upgrade of their training material and can use the lessons learned from the ASSIST project to strengthen their activities and outreach.

Thanks to these synergies we managed to successfully involve more than 18,000 households (or more than **45,000** vulnerable consumers) and we have estimated an energy saving of about **2%** with respect to their previous situation, as in the case of the Soft/engagement activities described above (also in this case the energy savings were not monitored). The impact of these synergies is already taken into account in the results of the Soft/engagement activities and the ASSIST action.

2.6 Conclusions

⁸ Herwin is a non-profit organisation that represents the social circular entrepreneurs in Flanders. They support the “Energiesnoeieters” but also the “Foodsavers” (ensures better access to fresh and healthy food for low-income households by means of distribution platforms) and “Kringwinkels” (shops that sell recycled and second-hand goods at a low price).

The overall output of all the ASSIST Soft/engagement activities carried out in the Belgian context can be considered successful and the obtained results are satisfactory.

The share of trained HEAs that were also active in implementing the Soft/engagement activities and ASSIST action is 55% or 43 out of 77 fully-trained HEAs. This is considered as very successful as we learned that it is not evident for the volunteers to organise their HEA tasks in combination with their regular job. Also, 150 Energy Cutters from the existing network followed the ASSIST training.

With the Soft/engagement activities we successfully addressed 40,920 households or 102,300 vulnerable consumers. The most successful Soft/engagement activities in number of households/consumers reached are the home visits of the Energy Cutters (18,000 households) and the energy saving tips of the meter readers (16,800 households). These activities will be continued also after the ASSIST project.

The most successful Soft/engagement activities are the workshops for vulnerable consumers in collaboration with the Public Centers for Social Welfare (OCMW) and Ecolife, as the content and methodology are completely tailored to the needs of a small group of vulnerable consumers. The workshops will also be continued after the end of the ASSIST project and it will be financed by Fluvius.

Although the existing network of Energy Cutters is already successful, the ASSIST project offered an opportunity to assess some specific issues that can reinforce the current network of Energy Cutters and increase its impact (in terms of energy saved, number of vulnerable consumers engaged), namely (see also D5.3):

- Working with volunteers;
- Monitoring the vulnerable client for a longer period of time;
- Dedicated advice for specific target groups that cannot be reached via the network of the Energy Cutters (e.g. vulnerable consumers that can only be reached outside working hours, deaf and hard of hearing vulnerable consumers);
- Contacting and acquiring vulnerable consumers through the network of the volunteers;
- Testing new material that can facilitate the work of the home energy adviser (e.g. “woonmeter”);
- Training by means of e-learning and extra training modules on relational skills and protection.

All lessons learned in the context of the ASSIST project are shared with the existing network of Energy Cutters through their representatives in the national Vulnerable Consumers Steering Committee (VCSC) and additional bilateral/network meetings (e.g. “scanborrels”). One of the results is that the training course of the Energy Cutters is extended with the extra modules on relational skills and protection.

The “woonmeter” proved to be a very successful tool both to support HEAs in giving dedicated advice and, as such, increase the comfort level in the houses of vulnerable consumers, as well as for engaging vulnerable consumers in the Soft/engagement activities and ASSIST action. Based on the results of the ASSIST project, we suggest to also integrate the woonmeter in the energy-scans of the Energy Cutters.

In the framework of the ASSIST project we implemented some new activities to engage with vulnerable consumers in addition to home visits and dedicated energy advice (see also D5.3), such as Fluvius meter readers giving energy-saving tips to vulnerable consumers and the marketing campaign targeting vulnerable consumers with energy

saving tips. Both activities are considered very successful in number of vulnerable consumers reached.

During the ASSIST project we managed to engage with more than 65 different organisations in the field of energy and poverty. We informed them about the ASSIST project and HEA network by means of information sessions, workshops, bilateral meetings, national Vulnerable Consumers Steering Committee (VCSC) meetings and market actor dialogues. The collaboration between the energy sector and social sector (e.g. Samenlevingsopbouw) proved to be a key factor of success in engaging volunteers and vulnerable consumers in the ASSIST action.

The final results in terms of the Energy Savings Indicator (ESI), the amount of energy savings (both in kWh and in percentage) and the Vulnerability Empowerment Factor (VEF) are considered positive. The ASSIST action had a positive impact on the energy consumption and comfort level of the vulnerable consumers engaged in the action. Also, the vulnerable consumer felt more empowered at the end of the monitoring period. A more detailed analysis of the results will be carried out in D4.7.

3. Finland

3.1 List of performed ASSIST Activities

A summary of all the activities (Soft/engagement activities, Actions and Synergies) successfully carried out in Finland is shown in the table below, with the width of consumers reached through these activities and the number of HEAs delivering the activities. The details about HEAs who have been responsible for each activity is reported in the next paragraphs. Collaboration with third sector organisations turned out an effective way to reach large consumer groups. All the activities already completed by the end of January 2020, will be briefly summarized in the next paragraphs (for all the details about them, refer to D5.3); on the other hand, the remaining activities, which were only partially complete and/or still ongoing at the time of the issuing of D5.3, will be presented in detail in the next paragraphs. Finally, the results of each actions in terms of the Energy Savings Indicator (ESI) and the Vulnerability Empowerment Factor (VEF) will be presented, while a more in depth analysis of such numbers will be performed in D4.7:

| Type of activity | Number of HEAs delivering the activity | Number of consumers reached |
|--|--|-----------------------------|
| <i>Soft/engagement activity #1</i> → Energy cafés among vulnerable consumers and other events for vulnerable consumers | 9 | 480 |
| <i>Soft/engagement activity #1.1</i> → Energy cafés (stands) | 5 | 361 (minimum) |
| <i>Soft/engagement activity #1.2</i> → Energy cafés with pensioners | 3 | 45 |
| <i>Soft/engagement activity #1.3</i> → Energy cafés for youth and secondary school pupils | 4 | 74 |
| <i>Soft/engagement activity #2</i> → Advising via email | 15 | Tens of thousands |
| <i>Soft/engagement activity #3</i> → Advising via virtual community page | 29 | 20,705 |
| <i>Soft/engagement activity #4</i> → Phone advising | 12 | 50 (minimum) |
| <i>Action #1</i> → Home visits | 57 | 1,120 |
| <i>Action #2</i> → Energy café follow-up | 2 | 10 (minimum) |
| <i>Synergy #1</i> → Motiva Energy Advisory Network collaboration | 11 | N.A. |
| <i>Synergy #2</i> → Mun Talous – My Finances network collaboration | 1 | 211 |
| <i>Synergy #3</i> → Collaboration with third sector organisations | 40 | 240,000 |
| <i>Synergy #4</i> → Contributing to a household consumption assessment project HARKKA | 1 | 84 |

3.2 Summary of HEAs training and activities

Overall, ASSIST actions were carried out in Finland by **68 different HEAs** with a variety of backgrounds, as shown in the table below. Most active HEAs were energy and engineering professionals and students, house renovation advisors, social workers and village assistants.

| Number of HEAs carrying our activities | Number of HEAs who started the ASSIST training | Number of HEAs who completed the ASSIST training | Type of HEAs | HEAs activity |
|--|--|--|--|---|
| 11 | 13 | 11 | House renovation advisor | Home visits, disseminating energy efficiency material |
| 7 | 7 | 1 | Social worker | Energy efficiency counselling through helpdesk, energy cafés, disseminating energy efficiency material, home visits |
| 15 | 24 | 15 | Energy student | Home visits |
| 11 | 25 | 11 | Energy advisor (MOTIVA) | Phone advising, home visits, disseminating energy efficiency material |
| 2 | 2 | 0 | Peer advisor | Energy cafés, home visits |
| 3 | 123 | 5 | Other energy professionals and interested citizens | Home visits, energy cafés |
| 19 | 19 | 3 | Village assistants | Home visits, disseminating energy efficiency material |
| 68 | 213 | 46 | | |

However, the number of HEAs (68) performing various ASSIST activities is larger than the number of those having formally completed the training (46). This indicates that ASSIST training activities have been successful in encouraging many to support vulnerable consumers in energy questions, but that accomplishing all formal requirements of ASSIST training have appeared not worth the effort for everyone.

3.3 Summary of Soft/engagement activities

Soft/engagement activities in Finland are summarized in the table below, while all the details about them can be found in D5.3, as all of them were completed before the submission of D5.3 except one (#1.3 Energy cafés for youth and secondary school pupils): such an activity took place at the end of January 2020 but there was no changes with respect to what had already been anticipated in D5.3 (as regards the event date, the structure and the number of participants, which were the same as those ones predicted in D5.3); therefore, there is no need to repeat the details of the activity here.

| Soft/engagement activity | Number and Type of Involved HEAs | Number of consumers reached | Dates and place |
|---|---|--|---|
| #1: Energy cafés among vulnerable consumers and other events for vulnerable consumers | TOTAL: 1 social worker, 1 peer advisor, 3 other energy professionals, 3 energy advisors, 1 renovation advisor | TOTAL 361+45+74 = 480 (minimum) | N.A. |
| #1.1: Energy cafés (stands) | 1 other energy professional, 3 energy advisors, 1 renovation advisor | 361 | 28/11/2018 (Helsinki); 4/6/2019 (Helsinki); Several others in autumn 2019 by HEA at different parts of country. |
| #1.2 Energy cafés with pensioners | 2 energy professionals, 1 peer advisor | 15 + 15 + 15 = 45. | 11/11/2019 (Helsinki); 12/11/2019 (Kerava); 08/01/2020 (Helsinki). |
| #1.3 Energy cafés for youth and secondary school pupils | 3 energy professionals + 1 social worker | 20 (23/10/2019) + 50 (20/01/2019) + 2 (25/11/2019) + 2 (online users, 28/11/2019) = 74 | 23/10/2019 (Helsinki); 20/01/2020 (Salo); 25/11/2019 and 28/11/2019 (Helsinki). |
| #2: Advising via email | 11 energy advisors, 3 other energy professionals, 1 social worker | Tens of thousands. | 23/10/2017–1/1/2018, 01/05/2019–31/10/2019 per email. |
| #3: Advising via virtual community page | 1 social worker +11 energy advisors +15 student + 2 other energy professionals = 29 | 20,705 | 11/08/2018–15/01/2020 at Facebook. |
| #4: Phone advising | 11 energy advisors + 1 social worker = 12 | Minimum 50, but most probably hundreds. | 25/09/2019–15/01/2020 per phone. |

In total, we were able to successfully address almost **50,000** vulnerable consumers, with an estimated **2%** energy saving for each involved family, with respect to their previous situation (although it was not monitored). This occurred thanks to the advice received during the course of the ASSIST Soft/engagement activities.

3.4 Summary of ASSIST Actions

Energy advisory offered by trained HEAs during house visits at vulnerable consumers' homes was probably the most powerful type of ASSIST action in Finland, as the relevance of different energy saving advices can be assessed together with the consumer in the actual household setting, which boosts the implementation of given advice. At least 1,120 consumers were reached through this action, but many HEAs will continue action also in the future.

The involved HEAs, mainly house renovation advisors, professional energy advisors and energy students collected a major share of the household survey questionnaires (ex-antes) from the vulnerable consumers during the house visits that were used to evaluate the effect of ASSIST actions (see chapter "Summary of results" below). Many consumers

to be interviewed to ex-post study were identified to the control group among these consumers visited.

ASSIST actions carried out in Finland are summarized in the table below and presented in detail in D5.3. The ASSIST Action #2 Energy cafés follow-up was still ongoing in January 2020. The minimum number of engaged vulnerable consumers (10) as anticipated in D5.3 has been reached, so there is no need to repeat the action details here. The peer advisors continue raising energy cost management topics with their peers and offer help for those interested in issues concerning electricity saving, invoicing and contracting.

| ASSIST actions | Number and Type of Involved HEAs | Number of consumers reached | Dates and place |
|---------------------------|---|-----------------------------|--|
| #1: Home visits | 11 house renovation advisors, 15 energy students, 19 village assistants, 7 social workers, 2 other professionals, 1 energy advisor, 2 peer advisors (57 HEAs in total). | 1,120 | July 2019 – December 2019 (vulnerable consumers private homes in different parts of the country) |
| #2: Energy café follow-up | 2 peer advisors, 2 energy professionals. | Minimum 10 | November 2019 – March 2020 |

3.4.1 Summary of results

The ASSIST **Energy Savings Indicator (ESI)** and **Vulnerability Empowerment Factor (VEF)** have been calculated according to the methodology defined in chapter 4 in D4.4 and briefly summarized in the introduction of this document.

The calculations have been performed on the reference group of **84** consumers (representing about **10%** of the monitored consumers), then they have been extended to the entire group of **823** engaged consumers through the ASSIST actions at the Finnish level (Action #1 and Action #2): this occurred because not all reached consumers through Action #1 and Action #2 were monitored, thus shrinking the size of the sample from 1,130 to 823 consumers.

Finally, the calculations have been combined in order to obtain two overall indicators for the ASSIST project: in Finland, we have decided to assign different weights to each parameter (25% to “Household size”, 20% to “Building type”, 45% to “Heated space” and 10% to “Heating system”) in order to give more weight to the most relevant parameters based on our experience on the field in the Finnish context.

The results are shown in the tables below.

| Household size | |
|-------------------------------------|------|
| Average ESI (84 consumers) | 2.3% |
| Average ESI (823 consumers) | 2.3% |
| Weighted ESI | 0.6% |
| Average VEF (84 consumers) | 0.4 |
| Average VEF (823 consumers) | 0.4 |
| Weighted VEF | 0.1 |

| Building type | |
|------------------------------------|------|
| Average ESI (84 consumers) | 1.6% |

| | |
|-------------------------------------|------|
| Average ESI (823 consumers) | 1.1% |
| Weighted ESI | 0.2% |
| Average VEF (84 consumers) | 0.3 |
| Average VEF (823 consumers) | 0.2 |
| Weighted VEF | 0.0 |

| Heated space | |
|-------------------------------------|------|
| Average ESI (84 consumers) | 1.8% |
| Average ESI (823 consumers) | 1.8% |
| Weighted ESI | 0.8% |
| Average VEF (84 consumers) | 16.3 |
| Average VEF (823 consumers) | 0.3 |
| Weighted VEF | 0.1 |

| Heating system | |
|-------------------------------------|------|
| Average ESI (84 consumers) | 1.9% |
| Average ESI (823 consumers) | 1.0% |
| Weighted ESI | 0.1% |
| Average VEF (84 consumers) | 0.4 |
| Average VEF (823 consumers) | 0.2 |
| Weighted VEF | 0.0 |

| FINAL RESULTS | |
|--|------|
| Overall ASSIST Energy Savings Indicator (ESI) | 1.7% |
| Overall Vulnerability Empowerment Factor (VEF) | 0.3 |

In Finland, the overall ASSIST Energy Savings Indicator (ESI) was 1.7%, and the overall Vulnerability Empowerment Factor (VEF) was 0.3.

Different from the ESI, an average energy saving per household assisted was 3.9%, however, in Finland only electricity saving values could be considered in this number due to a lack of data or reliable data, therefore, for this reason, a value for the total kWh saved will not be provided here because it would not be indicative: more details about the reasons behind such a decision will be provided in D4.7.

The data collection method from vulnerable consumers, and the data analysis are presented in detail in D4.7. Importantly, the in-depth interviews with the consumer control group members revealed relevant information on the characteristics of vulnerable energy consumers, mainly detached house dwellers, in Finland.

A deviation from the ESI and energy saving targets is not an indication of lower efficacy of ASSIST actions. It neither abolishes the need for targeted energy advisory. Instead, it implies a correlation between the level of awareness of one's energy realities, and vulnerability in Finland. The interviewed customers were in a position where many simplest energy saving practises had already been implemented, because energy costs were a burden for their household economies. In many cases, observable energy savings would

be possible through cost-intensive energy renovations only, which they often cannot afford and therefore hadn't even explored.

Most interviewed consumers in the control group explicitly stated that they had already earlier done everything they can do to save energy in their own housing setting. They were aware, that in Finland, where most houses already are properly isolated, and where 70% of housing energy consumption relates to heating, the most tangible and effective way to save energy would be to reduce indoor temperature. Many responders had, therefore, taken this measure to save in energy costs. Few reported even an 18-degrees, which is below the general comfort level. The observation calls for more studies on forms energy poverty takes in Finland.

In this light, a modest performance in the empowerment factor VEF is neither surprising, as VEF measures a difference between one's self-reported understanding between two moments of time. Since the beginning, the control group members appeared aware of their individual energy consumption levels and habits and this position remained unchanged through ex-post.

Nevertheless, the results do not abolish the need for targeted energy advisory actions in Finland: the need has been demonstrated in the former ASSIST study among a large 4,000 consumers sample (ASSIST Deliverable 5.1 Vulnerable Consumers Market Segmentation Report). This study conducted now, among still a rather small control group, confirms the need especially for professional energy renovation advisory as they might be very beneficial for the most vulnerable.

3.5 Summary of Synergies

Synergies are summarized in the table below, and presented in detail in D5.3.

| Synergy | Number and Type of Involved HEAs | Number of consumers reached | Dates and place |
|---|---|---|--|
| #1: Motiva Energy Advisory Network collaboration | 11 energy advisors | Hundreds | 05/2017–04/2020 (ASSIST duration). |
| #2: Mun Talous – My Finances network collaboration | 1 other energy professional | 211 | 28/11/2018 (Helsinki) and 4/6/2019 (Helsinki). |
| #3: Collaboration with third sector organisations | 3 other energy professionals | Hundreds of thousands. Minimum: 240,000 | 05/2017–04/2020 (ASSIST duration). |
| #4: Contributing to a household consumption assessment project HARKKA | Energy students (other than trained HEAs) | 84 | 2020 |

The synergies have successfully carried out in Finland involved almost **250,000** vulnerable consumers and we have estimated an energy saving of about **2%** with respect to their previous situation, as in the case of the Soft/engagement activities described above (also in this case the energy savings were not monitored).

3.6 Conclusions

ASSIST activities in Finland reached hundreds of vulnerable consumers directly through the actions, and tens of thousands through different Soft/engagement activities. House visits were possibly the most influential ASSIST action, however, a high number of house visits among the most vulnerable cannot be conducted without sufficient resourcing for traveling and daily allowances because Finland is a large and sparsely populated country and the majority of the vulnerable consumers live scattered and far out from city centres.

The two consumer studies conducted in Finland during ASSIST project confirms there is a need for professional energy advisory for the vulnerable consumers. In addition, especially in impoverished areas in the northern and eastern parts of the country professional energy advisory could help the vulnerable, in addition with suitable financial support structures.

However, the approach where ASSIST HEA activities were assumed to be carried out during one's free time requires critical thinking in Finland. Energy advisory activities requires preparation and constant updating of presentations and dissemination materials relevant for each audience. This time-consuming preparatory part in the HEA advisory work should not be overlooked. The Finnish project partner made massive marketing efforts to attract voluntary HEAs in the network. The active HEAs were eventually those who could connect the HEA activity with their job or other obligations such as their university education programme.

Synergies with third sector organisations turned out powerful in reaching vulnerable consumer groups. ASSIST HEA training was appraised, as it delivered relevant skills for the employees who are supporting vulnerable consumers daily. Many such fruitful collaboration forms were unfortunately identified only at a later stage of the project. There would be plenty of room for more similar collaboration with other companies and NGOs, too. There is a continuous need for good quality energy advisory for vulnerable consumers, as energy markets and policies are constantly changing and energy systems are becoming more and more complex.

4. Italy

4.1 List of performed ASSIST Activities

A summary of all the activities (Soft/engagement activities, Actions and Synergies) successfully carried at the Italian level is shown below, with the width of consumers reached through these activities and the number of HEAs delivering the activities. The details about HEAs who have been responsible for each activity is reported in the next paragraphs. As already said in the introduction, all the activities already finished by the end of January 2020, will be briefly summarized in the next paragraphs (for all the details about them, refer to D5.3); on the other hand, the remaining activities, which were only partially complete and/or still ongoing at the time of the issuing of D5.3, will be presented in detail in the next paragraphs. Finally, the results of each actions in terms of the Energy Savings Indicator (ESI) and the Vulnerability Empowerment Factor (VEF) will be presented, while a more in depth analysis of such numbers will be performed in D4.7:

| Type of activity | Number of HEAs delivering the activity | Number of households /consumers reached |
|--|--|---|
| <i>Soft/engagement activity #1</i> → Advice at home supplies shop (Leroy Merlin) | 198 | 500 households |
| <i>Soft/engagement activity #2</i> → Energy cafès | 2 | 130 households |
| <i>Soft/engagement activity #3</i> → Consultancy on financial support | 1 | 82 households |
| <i>Soft/engagement activity #4</i> → Education activity at disabled pupils school | 1 | 20 households |
| <i>Soft/engagement activity #5</i> → Energy café + education activity from social worker | 1 | 35 households |
| <i>Soft/engagement activity #6</i> → Energy café at energy provider premises | 1 | 2 households |
| <i>Soft/engagement activity #7</i> → Energy café at charity premises | 1 | 13 households |
| <i>Soft/engagement activity #8</i> → Education activity at trade union premises | 1 | 7 households |
| <i>Soft/engagement activity #9</i> → Distribution of material and provision of information to targeted consumers | 6 | 3,277 consumers |
| <i>Soft/engagement activity #10</i> → Online help desk on efficient behaviour and energy bills | 1 | 2,958 consumers |
| <i>Soft/engagement activity #11</i> → Consumers' workshop | 1 | 25 households |
| <i>Soft/engagement activity #12</i> → Consumers' workshop | 1 | 50 households |

| | | |
|---|---|---------------|
| Action #1 → Home visits and dedicated consultancy by social/health workers | 3 | 28 consumers |
| Action #2 → Help desks counselling for vulnerable consumers at consumers association premises | 9 | 590 consumers |
| Synergy #1 → Help desks for Vulnerable Consumers through Charity organizations | 1 | 5 households |
| Synergy #2 → Distribution of material and provision of information to targeted consumers | 1 | 45 households |

Further to the above mentioned activities, it is worth underlining four significant activities by four HEAs which, due to the ASSIST project time-frame, have not contributed to the present indicators but they will have an impact after the end of the project, thus increasing the number of trained and active HEAs and the number of vulnerable consumers reached and engaged. These activities will hopefully allow us to engage about 100 additional vulnerable consumers which are missing at the moment and thus allow us to meet the ASSIST target of 750 vulnerable consumers:

- 1) The first HEA organized an event at the premises of a charity using some of the ASSIST material (<https://www.facebook.com/consumatoresmart/>); this event was part of a propedeutical training process for the people involved in the future opening of a shelter for vulnerable consumers. Using the ASSIST experience, these people will start to plan some activities with the vulnerable consumers, thus increasing the number of engaged ones. Moreover, the HEA will try to involve other charities and replicate the most successful activities;
- 2) The second HEA has submitted a project proposal to a foundation (CARIPARMA) to financially support the take-up the ASSIST model on behalf of a small municipality. The project foresees the training of a small group of HEAs to work at the helpdesk to inform 1,000 households, deliver Soft/engagement activities to 120 households and deliver specific action to 30 households;
- 3) The third HEA, who has her own blog about energy, has implemented a webinar using some of ASSIST material (<https://www.facebook.com/capirelenergia/>), whose number of visualization after the live streaming is currently increasing at a fast pace. This webinar allowed the blogger to engage some vulnerable consumers and start to plan some activities with them;
- 4) The fourth HEA, who is responsible of the energy help desks of two small municipalities, has created a section specifically dedicated to the ASSIST project and the role of HEAs (<https://www.ecologiaeconsulenza.it/sportelloenergia/tutor-energia-domestica/>) within the web site of the help desks. This will hopefully increase the number of engaged vulnerable consumers, with whom some activities will be planned in the next months.

All the above described activities are very important because they will set the basis for long term impact of the ASSIST project and for the future replicability and take-up of its results.

4.2 Summary of HEAs training and activities

In total, there are **122 fully-trained HEAs** and 204 high-school students trained with a short HEA course of which 23 are active HEAs having delivered and reported either Soft/engagement activities, Actions or Synergies. A summary of the activities of which the HEAs are responsible and they have carried out is reported in the table below.

| Number of Trained HEAs per type | HEAs activity |
|--|---|
| 198 high school students | Soft/engagement activity #1 |
| 10 from trade union (FLAEI) | Soft/engagement activity #8 Soft/engagement activity #9 Action #2 |
| 23 from various Consumers Associations (Federconsumatori, Adiconsum) | Soft/engagement activity #2 Soft/engagement activity #9 Action #2 |
| 24 from various energy companies | Soft/engagement activity #6 Soft/engagement activity #9 (Some HEAs did not perform or complete any ASSIST actions due to internal reasons of their companies) |
| 5 from various private companies | Not completed or performing any actions at the moment due to both the difficulties of getting in touch with vulnerable consumers and the feeling to be inadequate to give solid advice and provide concrete help to vulnerable consumers (ex. They were afraid of receiving difficult questions to which they would have not been able to answer) |
| 15 from various public bodies | Soft/engagement activity #10 (Some HEAs did not carry out any ASSIST actions due to lack of time and internal reason of their entity, in particular the lack of commitment of their top management) |
| 3 from social housing operators | Not completed or performing any actions at the moment as they did not have enough time to dedicate to ASSIST actions due to excessive work burden of their current activities |
| 1 unemployed (potential vulnerable consumer) | Not completed or performing any actions at the moment as he did not have enough time to dedicate to carry out ASSIST actions |
| 25 social workers (students at University and operators) | Soft/engagement activity #3 Soft/engagement activity #4 Soft/engagement activity #5 Soft/engagement activity #9 Action #1 |
| 2 from a charity organization | Soft/engagement activity #7 Soft/engagement activity #11 Soft/engagement activity #12 Synergy #1 Synergy #2 |

4.3 Summary of Soft/engagement activities

In total, 12 Soft/engagement activities were carried out at the Italian level: the geographical distribution was quite uniform, as there were both activities carried out at the national level

on the whole Italian territory and activities implemented at the local level; moreover, both large cities (such as Rome) and small cities (such as Sulmona and Parma) were involved, thus the involved consumers can be considered quite representative of the whole Italian population. The table below shows a summary of all the Soft/engagement activities, whose details can be found in D5.3.

| Soft/engagement activity | Number and Type of Involved HEAs | Number of households/ consumers reached | Dates and place |
|---|---|---|--|
| #1: Advice at home supplies shop (Leroy Merlin) | 198 high school students | 500 households | October 2018 – December 2018 (several regions in Italy) |
| #2: Energy cafès | 2 from Consumers Associations | 130 households | July 2019 (city of Brescia) |
| #3: Consultancy on financial support | 1 social worker | 82 households | September 2019 – December 2019 (city of Sulmona) |
| #4: Education activity at disabled pupils school | 1 social worker | 20 households | June 2019 – December 2019 (city of L'Aquila) |
| #5: Energy café + education activity from social worker | 1 social worker | 35 households | September 2019 (city of L'Aquila and its neighborhoods) |
| #6: Energy café at energy provider premises | 1 from energy company | 2 households | May 2019 – July 2019 (city of La Spezia) |
| #7: Energy café at charity premises | 1 from charity organization | 13 households | April 2019 (city of Verbania) |
| #8: Education activity at trade union premises | 1 from trade union | 7 households | October 2019 (city of Trapani) |
| #9: Distribution of material and provision of information to targeted consumers | 6 from consumers associations, trade union, energy companies and social workers | 3,277 consumers | September 2019 – December 2019 (several towns and cities in Italy) |
| #10: Online help desk on efficient behaviour and energy bills | 1 from public bodies | 2,958 consumers | September 2019 – December 2019 (city of Parma and its neighbour) |
| #11: Consumers' workshop | 1 from charity organization | 25 households | December 2019 (city of Grassano and its neighbour) |
| #12: Consumers' workshop | 1 from charity organization | 50 households | January 2020 (city of Rome) |

The main goal of the activities was to address vulnerable consumers through the use of tools such as factsheets (dealing with, for example, electricity appliance, electricity bills, low-cost energy efficiency measures and energy providers), questionnaires (aiming to

reach a deeper knowledge of the consumption habits of the family and the dwelling they live in), energy consumption tip and short consultancies about energy efficiency and available subsidies for vulnerable consumers, such as “Bonus sociale per l’elettricità, il gas e l’acqua” or other subsidies at the local or regional level.

The most successful activities were carried out by HEAs belonging to the third sector (consumers associations and social workers in particular); other HEAs were able to carry out some activity only to a limited extent (such as some stakeholders from energy companies who, although completed the whole training course and became HEAs, were not able to complete any ASSIST actions due to internal reasons of their companies) or could not implement any ASSIST actions at all.

The involvement of stakeholders belonging to the third sector who became HEAs, was thus fundamental to reach the required target of vulnerable consumers: such HEAs, in fact, already deal with energy poverty issues in their daily activities and therefore know who are the vulnerable consumers in a determined area and, among them, identify those who are the most in need of support.

Moreover, such HEAs know which is the best way to approach the vulnerable consumers, as, in most cases, they are considered trustworthy and respected people by them.

These HEAs appreciated the ASSIST approach, in particular the training course as it allowed them to deepen some subjects and themes in which they not very well-versed (such as, for example, some elements of building engineering physics or a summary of the General Data Protection Regulation), thus providing a comprehensive overview of the different aspects related, also indirectly, to energy poverty.

An important aspect to be highlighted is the collaboration with local municipalities: in fact, some of the activities previously described have been carried out by some HEAs of the third sector working with and for municipalities within their SECAPs (Sustainable Energy and Climate Action Plans). These HEAs have a mixed profile, mainly coming from the technical sector but with strong competencies and experiences on social aspects. The actions these HEAs have carried out are to promote the take-up of the ASSIST model (training – networking – action) by the municipalities for the setting up of municipality helpdesks to address citizens on energy issues.

This has led to the successful address of almost **8,500** vulnerable consumers and we have estimated a **2%** energy saving (although it was not monitored) for each involved family, with respect to their previous situation, thanks to the advice received during the course of the ASSIST Soft/engagement activities.

We also have learned some lessons, such as, for example, that at least more than one Energy Café in a row should be organized, in order to allow more people to participate and avoid complaints from those who were not able to participate to the first one, or the importance to address all the bureaucratic and privacy issues very well in advance, before the actual implementation of the activity on the field. We have also learnt from the actions that there is no right way to address vulnerable consumers as they have different level of vulnerability and require different type of assistance; therefore, the best way depends on what you want to achieve in terms of number of consumers reached and indepth advice provided. For example, energy cafés are a very good action to reach a low number of people but with in depth and dedicated advice, while energy bill audits are a good action only in a one-to-one dialogue and only if the consumer has a specific issue to be solved (ex. with its energy bill). Another lesson is that actions, in order to be successful, need to be carried out on a ground level and only by HEAs working on the field with direct contacts

with people are able to efficiently reach consumers and have an impact on their energy consumption/quality of life: this shows, once again, the importance of the people working in the third sector and their deep knowledge of vulnerable consumers.

4.4 Summary of ASSIST Actions

The full description of Actions #1 can be found in D5.3 as it has been completed before January 2020; Action#2, on the other hand, has continued also after January 2020 in order to increase the number of engaged vulnerable consumers before the end of the project. A detailed description of such action can be found in the table below.

| Action #2: Help desks counselling for vulnerable consumers at consumers association premises | |
|---|--|
| Action description | |
| Dates of action | May 2019 – March 2020 |
| Action target | All consumers going to consumers association helpdesks for issues about their energy bills. |
| Geographic dimension | National |
| Geographic area | Several regions and provinces all over Italy. |
| Number of involved users | Potentially 1,000 households. |
| Success rate | About 30% of the households involved in the initiative. |
| Action tools | Factsheets with advice on electricity appliance, electricity bills, low-cost energy efficiency measures, etc.. |
| HEAs involvement | |
| Type of HEA | Consumers associations. |
| Number of HEAs involved | 9 |
| Foreseen involvement | Questionnaire and energy bills reading for baseline collection, follow-up calls/e-mails. Dedicated advice based on household habits and preferences. |
| Feedback from HEAs | The involved HEAs were happy about their activities and the practical help they were able to provide to vulnerable consumers. |
| Action monitoring | |
| HEAs activity | Number of involved consumers. |
| Control group | 10% of involved households providing their data on energy consumption and energy expenditure before and after. |
| Monitoring tools | Questionnaires to the families and check of energy bills. |
| Large control group | Not foreseen for this action. |
| Estimated energy savings | 7% |
| Vulnerable consumers outreach | Dedicated consultancy about different issues: <ul style="list-style-type: none"> - Analysis of energy bills (electric energy bills and/or gas bills); - Information about available subsidies; - Analysis of energy contracts (electric energy contracts and/or gas contracts); - Information about protected energy markets; - Request of subsidies; - Request to change energy contracts (electric energy contracts and/or gas contracts); |

| | |
|--|---|
| | <ul style="list-style-type: none"> - Information about behavioural measures and low-cost energy efficiency; <p>In total, 590 consumers have been reached and engaged through at least one of the actions listed above.</p> |
| SWOT analysis | |
| Strengths | Consumers associations are strongly rooted in the local context and thus are able to identify the consumer who are more in needs to receive support. |
| Weaknesses | A long time is required to carry out support actions due to the difficulties that might arise in the interaction with vulnerable families, often located in a challenging environment. |
| Opportunities | Actions carried out by consumers associations can really be effective due to their deep integration in the territory which allows the persistence of the actions over time. |
| Threats | N/A |
| Lessons learned and misalignment with original planning | |
| Lessons learned | <p>Involve consumers associations since the beginning of the project, ideally as partners in the consortium.</p> <p>Allow more time to HEAs for the collection of both the ex-ante and the ex-post questionnaire to face the difficulties of interacting with vulnerable consumers.</p> <p>Increase the time between the compilation of the ex-ante questionnaire and the ex-post one, in order to monitor a longer period.</p> |
| Misalignment with D5.2 and D5.4 | Less vulnerable consumers were involved with respect to the original plan due to the difficulties found during the course of the activities, in particular during the collection of the ex-ate questionnaires. |

A summary of the actions carries out at the Italian level can be found in the table below.

| ASSIST actions | Number and Type of Involved HEAs | Number of consumers reached | Dates and place |
|---|--|------------------------------------|--|
| #1: Home visits and dedicated consultancy by social/health workers | 3 social workers | 28 consumers | June 2019 – December 2019 (cities of L'Aquila, Sulmona and Camerino) |
| #2: Help desks counselling for vulnerable consumers at consumers association premises | 9 from trade unions and consumers associations | 590 consumers | May 2019 – March 2020 (several towns and cities in Italy) |

4.4.1 Summary of results

The ASSIST **Energy Savings Indicator (ESI)** and **Vulnerability Empowerment Factor (VEF)** have been calculated according to the methodology defined in chapter 4 in D4.4 and briefly summarized in the introduction of this document.

The calculations have been performed on the reference group of **172** consumers (representing **28%** of the monitored consumers), then they have been extended to the entire group of **618** engaged consumers through the ASSIST actions at the Italian level (Action #1 and Action #2).

Finally, the calculations have been combined in order to obtain two overall indicators for the ASSIST project: in Italy, we have decided to assign an equal weight to each parameter (25% each, as there are four parameters), because, from our experience on the field in the Italian context, no predominant factor related to energy savings and comforts exist for vulnerable consumers.

The results are shown in the tables below.

| Household size | |
|-------------------------------------|------|
| Average ESI (172 consumers) | 5.6% |
| Average ESI (618 consumers) | 6.2% |
| Weighted ESI | 1.5% |
| Average VEF (172 consumers) | 0.3 |
| Average VEF (618 consumers) | 0.4 |
| Weighted VEF | 0.1 |

| Building type | |
|-------------------------------------|------|
| Average ESI (172 consumers) | 5.2% |
| Average ESI (618 consumers) | 5.1% |
| Weighted ESI | 1.3% |
| Average VEF (172 consumers) | 0.3 |
| Average VEF (618 consumers) | 0.4 |
| Weighted VEF | 0.1 |

| Heated space | |
|-------------------------------------|------|
| Average ESI (172 consumers) | 5.1% |
| Average ESI (618 consumers) | 5.4% |
| Weighted ESI | 1.3% |
| Average VEF (172 consumers) | 0.3 |
| Average VEF (618 consumers) | 0.3 |
| Weighted VEF | 0.1 |

| Heating system | |
|-------------------------------------|------|
| Average ESI (172 consumers) | 5.5% |
| Average ESI (618 consumers) | 4.4% |
| Weighted ESI | 1.4% |
| Average VEF (172 consumers) | 0.3 |
| Average VEF (618 consumers) | 0.4 |
| Weighted VEF | 0.1 |

| FINAL RESULTS | |
|--|------|
| Overall ASSIST Energy Savings Indicator (ESI) | 5.5% |
| Overall Vulnerability Empowerment Factor (VEF) | 0.4 |

As you can see, thanks to the ASSIST actions, the engaged vulnerable consumers were able to obtain both energy savings and an improvement of the comfort in their homes.

The actual amount of energy savings at the Italian level is 7,799 kWh, which corresponds to about 5% of energy savings per vulnerable household.

5% can be considered a satisfactory level, as vulnerable consumers already have very low annual consumption (on the order of half or one third with respect to the average household), thus the room to obtain energy savings without recurring to intrusive intervention (such as for example, adding thermal insulation to the house or replacing the heating boiler with a more efficient one), is quite limited.

Also the positive value of the VEF, although not very large, can be considered acceptable, as vulnerable consumers usually live in low performing houses, which would require an overall renovation they cannot afford; therefore, small improvement in the comfort inside their homes is a good indicator of the positive effect of the ASSIST actions and an assessment of the efficacy of the whole project in the Italian context.

4.5 Summary of Synergies

Synergies are activities carried out as interactions with other projects which were already ongoing and for which a collaboration was deemed feasible and bringing added value both to the original project and to the ASSIST project.

In total, 2 synergies were carried out at the Italian level: the former took place in the Lombardia Region, while the latter in the city of Milan and its neighbourhood; this increased the geographical coverage of the ASSIST project as the city of Milan was not particularly involved in any of the Soft/engagement activities.

The table below summarizes the synergies carried out at the Italian level, while the details about them can be found in D5.3.

| Synergy | Number and Type of Involved HEAs | Number of households reached | Dates and place |
|---|----------------------------------|------------------------------|--|
| #1: Help desks for Vulnerable Consumers through Charity organizations | 1 from charity organization | 5 households | September 2019 – December 2019 (Lombardia region) |
| #2: Distribution of material and provision of information to targeted consumers | 1 from charity organization | 45 households | November 2019 – December 2019 (city of Milano and its neighbourhood) |

Both synergies were implemented by charity organizations, within the context of projects which were already in place. This confirms the importance of the involvement of stakeholders coming from the third sector and the fundamental role of such sector as one of the pillars of the social welfare system in Italy.

The synergies have successfully involved almost **150** vulnerable consumers and we have estimated an energy saving of about **2%** with respect to their previous situation, as in the case of the Soft/engagement activities described above (also in this case the energy savings were not monitored).

4.6 Conclusions

The overall output of all the ASSIST activities carried out in the Italy context can be considered successful and the obtained results are satisfactory.

Unfortunately, it was not possible to implement all the activities originally planned in D5.2 and D5.4 due the difficulties and the challenges encountered during the course of the project: the timing of the ASSIST project (and of EU funded projects in general) requires a detailed planning which does not leave much room to face potential unexpected events and difficulties; such elements, unfortunately, have a large probability to arise for sure when dealing with challenging environments such the ones in which vulnerable consumers live. And this is what actually happened in some cases, as pointed out in D5.3 in the sections dealing with the misalignments between the planned and the actually implemented actions plan.

Luckily, as a result of the commitment and dedicated effort of the Italian partners, the activities which remained only at the planning stage in D5.2 and D5.4, were successfully replaced by some other activities; this was possible thanks to the engagement activities carried out at the Italian level which have led to the creation of a large stakeholders network with many actors willing to cooperate with the ASSIST project partners and implement activities in the field. Most of the involved actors carried out the activities on a voluntary basis, in the framework of some consumers associations or no-profit organizations, thus they were already aware of the importance of the energy poverty phenomenon and all the issues related to it. Although it was not possible, for the above mentioned difficulties, to fulfill the required target of engaged vulnerable consumers by the end of the project (we were about 100 consumers short with respect to the target), this helped to boost the efficacy and the extent of each activity (and especially the actions) carried out within the ASSIST framework.

The third sector plays, in fact, a fundamental role within the Italian society, in particular to address all those areas in which the State support is limited and/or has some deficiencies, thus improving the welfare for those people who risk to be left behind.

Such a strong involvement of the stakeholders dealing with vulnerable consumers in their daily activities (and, in particular, those belonging to the third sector), was the core reason of the success of the ASSIST project, although it would have been better to involve such stakeholders with a specific role (such as members of the Advisory Board) from the beginning of the project.

The final results in terms of the Energy Savings Indicator (ESI), the amount of energy savings (both in kWh and in percentage) and the Vulnerability Empowerment Factor (VEF) have also been presented: they can be considered positive and represent the litmus test of the effectiveness of the ASSIST action at the Italian level. A more detailed analysis of the such results will be performed in D4.7.

5. Poland

5.1 List of performed ASSIST Activities

Below there is a summary of the activities implemented in Poland, which contain: soft/engagement activities, actions and synergies. The list has been supplemented with figures on the reach of consumers that were achieved through the implementation of these activities, as well as the number of HEAs who conducted these activities. Detailed information on the HEA groups who were responsible for each activity is provided in the following paragraphs. All detailed information on the activities can be found in D5.3.

Finally, the results of each action will be presented in terms of energy saving index (ESI), while a more detailed analysis of such numbers will be carried out in D4.7.

| Type of activity | Number of HEAs delivering the activity | Number of households /consumers reached |
|---|--|---|
| <i>Soft/engagement activity #1 → Helpdesk in Energy Bus</i> | 15 | 430 consumers |
| <i>Soft/engagement activity #2 → HEAs' relatives</i> | 20 | 200 households |
| <i>Soft/engagement activity #3 → Helpdesk advice in local FK branches</i> | 5 | 700 consumers |
| <i>Soft/engagement activity #4 → Helpline – phone</i> | 2 | 600 consumers |
| <i>Soft/engagement activity #5 → Meetings with consumers</i> | 5 | 100 consumers |
| <i>Action #1 → Home visits by municipality advisors</i> | 46 | 370 households |
| <i>Action #2 → Home visits by consumer organisation</i> | 7 | 100 households |
| <i>Action #3 → HEAs' tailored desk advices and solutions</i> | 10 | 280 households |
| <i>Synergy #1 → LIFE Małopolska Project</i> | N.A. | 81 consumers |
| <i>Synergy #2 → Energy advisors in National Energy Preservation and Water Management Fund</i> | N.A. | 219 consumers |

As mentioned above, in Poland there was organised 5 soft/engagement activities and 3 actions. These ones were conducted in different part of Poland: most of them were organized in Warsaw and the neighbourhood and Małopolska Region, but few of them took place also in Gdynia and Pomorze, and other localisations.

5.2 Summary of HEAs training and activities

In total, there are **152 fully-trained HEAs**. There are 53 HEA who actively perform ASSIST activities Main types of involved HEAs were: social workers (26 HEAs trained, 26 performing activities), municipality workers (44 HEAs trained, 20 performing activities),

professional Energy Advisors (81 HEAs trained, 0 performing activities) and from Consumer Associations (10 HEAs trained, 7 performing activities).

| Number of Trained HEAs per type | HEAs activity |
|--|---|
| 3 Municipality workers (Eco-Managers from Małopolska Region) | Soft/engagement activity #1 Soft/engagement activity #2 Soft/engagement activity #3 Soft/engagement activity #5 Action #1 |
| 12 Municipality workers (Eco-Managers from Małopolska Region/Social workers) | Soft/engagement activity #1 Action #1 |
| 2 Municipality workers (Eco-Managers from Małopolska Region) | Soft/engagement activity #2 Soft/engagement activity #5 Action #1 |
| 5 Social Workers | Soft/engagement activity #2 Action #1 |
| 15 Social Workers 4 from Consumer Organization | Action #1 |
| 2 from Consumer Organization | Soft/engagement activity #2 Soft/engagement activity #3 Soft/engagement activity #4 Action #2 Action #3 |
| 5 from Consumer Organization | Soft/engagement activity #2 Action #1 Action #2 Action #3 |
| 3 from Consumer Organization | Soft/engagement activity #2 Action #3 |
| N.A. | Synergy #1 |
| N.A. | Synergy #2 |

5.3 Summary of Soft/engagement activities

Soft/engagement activities were conducted by representatives of all groups of HEAs. It was a great opportunity to promote the information about the fact that in the area there is somebody as HEA and he/she could give advices on both energy and social issues. People, usually, do not know about places where they could find information about their problems. Soft/engagement activities could also find the way to find energy poor people and give them the chance to become more conscious about energy issues.

The main goals of these activities were to reach residents, including vulnerable consumers, to provide them with energy consumption tips, energy efficiency tips, as well as low-cost and cost-effective ways to reduce energy consumption. In addition, HEAs also provided advice on the possibility of obtaining funding from local, regional and national funds, such as energy supplement, targeted allowance or co-financing under the Clean Air and STOP SMOG activities.

Meetings with consumers is a very good way to show people ways to save energy (but not just to devote it to vulnerable consumers). An energy bus is a place where everyone can find something for themselves, regardless of whether they are children or adult and if they know nothing about energy efficiency or are a professional in this field. It was also a good

place to demonstrate energy efficiency in practice. It was also a very good way to involve people who otherwise would never be involved. The energy bus took part in local events that all residents attend (in addition for free) so that everyone can come and HEA could reach a sensitive consumer to give him advice.

Most field activities (Soft/engagement activities #1, #2, #3 and #5) were carried out by HEAs who are Eco-Managers from Małopolska Region or social workers in Warsaw and city workers in Gdynia. In these cases, HEAs not only provided energy and social advice, but also obtained surveys necessary to monitor the ASSIST project. These activities were carried out from July 2018 to December 2019.

This has led to the successful address of **2,030** vulnerable consumers and we have estimated a **2%** energy saving (although it was not monitored) for each involved family, with respect to their previous situation, thanks to the advice received during the course of the ASSIST Soft/engagement activities.

HEAs from the groups mentioned above were also the most interested in ASSIST trainings. Activities that they had and have planned as part of their work were largely related to providing advice and providing energy assistance to vulnerable consumers locally. Therefore, their involvement was very important for achieving the required goal of vulnerable customers. These HEAs, thanks to the ASSIST project, were able to easily broaden their knowledge with knowledge transferred during ASSIST trainings and use it in their daily work, in which they increasingly deal with and will deal with the problems of energy poverty.

In addition, HEAs from these groups have one more important advantage. Being municipal/city workers, they know (especially in smaller towns) the society well and their approach/interest in various issues. A big advantage of the city employees is their cooperation with social welfare system. The system knows the best poor people who need help in cities or municipalities. Although information from social care does not always provide clear information that we make contact with energy poor people, but they are already able to point out financially poor people or people who report to the commune with other problems, e.g. health problems. As a result, city/municipality workers have an outlined consumer situation. Soft activities, however, help to make the first contact, which can then be deepened under Actions.

Soft/engagement activities brought also lessons learnt. Relatives, neighbours and friends are a target group which is limited, but the outputs are very satisfactory. The level of trust (that we are not going to sell anything, but try to help) is very high, therefore consumers from this group paid attention much better than average household.

Another lesson learnt was activities which strengthen other local campaigns, events focuses in energy efficiency and environment. Local events bring people into one place, what made it easier to give and find more information about energy efficiency – more people joined to local educational action. Moreover small gadgets and leaflets are perfect to encourage consumers and make more attractive invitation.

5.4 Summary of ASSIST Actions

All the Actions (Action #1 “Home visits by municipality advisors”, Action #2 “Home visits by consumer organisation” and Action #3 “HEAs’ tailored desk advices and solutions”)

finished before the end of January. The full description of them can be found in D5.3, while below there is a summary of ASSIST Actions.

People who conducted these actions can be divided into two groups. The first of these were HEAs from Consumers Organizations, who collected both ex-post and ex-ante surveys. They ran Action #1, Action #2 and Action #3. The second group was composed by HEAs, mentioned in the chapter Soft/engagement activities: municipality workers and social workers from welfare system. These groups implemented Action #1 and collected only ex-ante questionnaires.

The big success of actions (the same as in Soft/engagement activities) was achieved thanks to cooperation with Welfare System and social workers who know their proteges. The lesson learnt was the fact, that not every household, which was suggested to Municipality Workers by Welfare System, was energy poor. Some of them were only under Welfare System help, e.g. because of the health issues.

Another thing was that substantial part of vulnerable consumers don't know a lot about their energy bills and home equipment energy efficiency. So this was a place for HEAs and giving advices.

Combined consumer-energy advising scheme has a huge potential. Vulnerable consumers are often affected also by problems raising from general vulnerability. Protecting them from energy exclusion goes usually together with tackling financial and social exclusion. Low level of awareness is one of the most important challenges.

The summary of Actions' results is presented below.

5.4.1 Summary of results

The ASSIST **Energy Savings Indicator (ESI)** has been calculated according to the methodology defined in chapter 4 in D4.4 and briefly summarized in the introduction of this document; we decided to not include comfort level into evaluation and, therefore, to not calculate the **Vulnerability Empowerment Factor (VEF)**. This occurred because ex-ante surveys were made during summer and ex-post during the winter: temperatures inside the house/flat were, in fact, totally different, as well as subjective consumer's feeling. Our methodology allows to compare this on the bases of relevant season or on at least 1-year period base. Therefore, thermal comfort was excluded from calculation.

Electricity price was excluded from the evaluation. The reason is that vast majority of vulnerable households in Poland has no smart meters yet and the invoices are issued on the consumption prognoses and verified in 6-month periods by DSO's. This means consumers get real billing every half a year. During ex-post exercise, there were no latest calculation in majority of households. Therefore, the supplier of tariff change recommended by HEA and implemented by consumer, will give results in forthcoming months, but during ex-post was not known yet.

Consumer empowerment seems to be one of the biggest successes of HEA activities and ASSIST project itself. From HEAs' relations we can state that consumers were much more conscious and realized that their budget spent on energy depends directly on their decisions and behavior. Again, it was not possible to measure this factor by objective criteria, because the period between ex-ante and ex-post was too short.

The calculations have been performed on the reference group of **75** consumers (representing **4%** of the monitored consumers), then they have been extended to the

entire group of **1,875** engaged consumers through the ASSIST actions at the Polish level (Action #1, Action #2 and Action #3).

Finally, the calculations have been combined in order to obtain two overall indicators for the ASSIST project: in Poland, we have decided to assign an equal weight to each parameter (25% each, as there are four parameters), because, from our experience on the field in the Polish context, no predominant factor related to energy savings and comforts exist for vulnerable consumers. The results are shown in the tables below.

| Household size | |
|---------------------------------------|------|
| Average ESI (75 consumers) | 4.3% |
| Average ESI (1,875 consumers) | 4.4% |
| Weighted ESI | 1.1% |
| Average VEF (75 consumers) | N.A. |
| Average VEF (1,875 consumers) | N.A. |
| Weighted VEF | N.A. |

| Building type | |
|---------------------------------------|------|
| Average ESI (75 consumers) | 4.6% |
| Average ESI (1,875 consumers) | 4.4% |
| Weighted ESI | 0.9% |
| Average VEF (75 consumers) | N.A. |
| Average VEF (1,875 consumers) | N.A. |
| Weighted VEF | N.A. |

| Heated space | |
|---------------------------------------|------|
| Average ESI (75 consumers) | 4.5% |
| Average ESI (1,875 consumers) | 4.4% |
| Weighted ESI | 1.3% |
| Average VEF (75 consumers) | N.A. |
| Average VEF (1,875 consumers) | N.A. |
| Weighted VEF | N.A. |

| Heating system | |
|---------------------------------------|------|
| Average ESI (75 consumers) | 4.4% |
| Average ESI (1,875 consumers) | 4.4% |
| Weighted ESI | 1.1% |
| Average VEF (75 consumers) | N.A. |
| Average VEF (1,875 consumers) | N.A. |
| Weighted VEF | N.A. |

| FINAL RESULTS | |
|--|------|
| Overall ASSIST Energy Savings Indicator (ESI) | 4.4% |
| Overall Vulnerability Empowerment Factor (VEF) | N.A. |

During the ex-ante evaluation, our HEAs estimated potential savings for particular households: accordingly to this estimation, energy purchased (in all forms and purposes) can be reduced significantly – average savings potential was calculated at 29% of current consumption.

However, proposed solutions were not always easy to implement, for several reasons: some are rather expensive (like PV installation or house insulation), some are not possible at all because of lack of municipal infrastructure (example of flats heated by electric energy because there is no system heating nor gas installation in the whole building).

Our HEAs tried to advise those solutions in the first row, which are technically possible and not demanding in terms of costs. Such implementations gave us savings potential c.a. 14% on average.

During ex-post evaluation, we compared the initial situation (June 2019) with the final one (January 2020), including changes made and solutions implemented by consumers during this period.

- 44 (of 75) households made some changes in their electric energy consumption:
 - in which 13 saved more than 7% of EE (in kWh);
 - the biggest savings reached were above 20% (in kWh).
- 22 (of 75) households made some changes in their heating sources consumption
 - in which 6 saved more than 7% (in kWh);
 - the biggest savings reached were above 25% (in kWh).

General output numbers are, however, not so impressive. The overall ASSIST Energy Savings Indicator (ESI) counted on the comparison bases is 4.4% (vs. predicted 7%).

5.5 Summary of Synergies

The first synergy (Synergy #1 “LIFE Małopolska Project”) involved a big group of our trained HEAs who were professional Energy Advisors operating in frame of another grant from LIFE Programme. Those advisors activities were rather general (advising local authorities, public entities, companies), not consumer oriented, therefore we had a great opportunity to support them by our specialised courses focused on individuals and households, especially energy vulnerable ones. 81 person from Małopolska took part in workshops and implemented our knowledge, methods and solutions into their daily work.

The second synergy (Synergy #2 “Energy advisors in National Energy Preservation and Water Management Fund”) ran under auspices of National Energy Preservation and Water Management Fund. There were a group of specialised energy advisors in each Polish Voivodship. Those people supports mostly local authorities, but were strongly interested in vulnerable consumers.

We managed to organise a dedicated workshops for this group of advisors and our contacts are still very intensive (i.e. they were represented in project’s Steering Committee and participating in Market Actors Dialogue).

In total, the synergies have successfully involved **300** vulnerable consumers and we have estimated an energy saving of about **2%** with respect to their previous situation, as in the case of the Soft/engagement activities described above (also in this case the energy savings were not monitored).

5.6 Conclusions

ASSIST activities in Poland had some very positive impact. First, we have a map of entities, public and private, administration, NGOs, companies – who are interested in this model of competence and further cooperation. Second, we have a lot of experience collected by HEAs in reaching consumers and getting their trust (in many cases HEAs visited homes twice and asked quite intrusive questions about number of persons in household or level of income). Last, but not least, our active HEAs are declaring their interest to follow-up and this is the best conclusion for us.

Energy savings generated so far by the ASSIST project are significantly below targeted 7%. The main reasons are:

- Too short time for implementation, as ex-ante and ex-post questionnaires were filled in 6 months distance. This means that majority of visited households had time to implement only the simplest and cheapest solutions like light sources or small devices exchange. Bigger investments (like house insulation or change of heating source) were declared, but possibly during forthcoming summer;
- Behavioral change, as it was commonly declared by consumers, but it is not possible to be measured without invoice and billing. In Poland, over 90% of households have prognosed bills (no smart metering yet) and balancing invoice each 6 months. To compare consumption year to year, with seasonal specific profiles, we would need at least 12 months between ex ante and ex post;
- Above reasons made us also not able to measure VEF factor, therefore it was excluded from Polish methodology and outputs.

The main lessons learned are:

- HEAs competence profile is good and should be further developed and disseminated;
- HEAs network is possible to keep but without any financing for HEA a constant care and relationship management is needed (which also costs).

6. Spain

6.1 List of performed ASSIST Activities

A summary of all the activities (soft/engagement activities, actions and synergies) successfully carried out at the Spanish level is shown below, with the total number of homes reached through these activities and the number of HEAs that have carried out each of them. On the one hand, details on the HEAs that have been responsible for each activity are reported in the following paragraphs. Moreover, all the activities carried out are also presented in detail in this document. Finally, the results of each action are presented in terms of the Energy Savings Indicator (ESI) and the Vulnerability Empowerment Factor (VEF), while in D4.7 a more in-depth analysis of such numbers will be carried out:

| Type of activity | Number of HEAs delivering the activity | Number of households reached |
|--|--|------------------------------|
| <i>Soft/engagement activity #2</i> → Energy café | 11 | 190 households |
| <i>Soft/engagement activity #3</i> → Energy advice by coordinators of the Home Care Service | 4 | 60 households |
| <i>Soft/engagement activity #4</i> → Energy advice by HEAs from Home Care Service for users that are not participating in the ASSIST actions | 86 | 701 households |
| <i>Soft/engagement activity #5</i> → Energy advice by HEAs from Tele Care Service for users that are not participating in the ASSIST actions | 3 | 200 households |
| <i>Soft/engagement activity #6</i> → Sending advice through newsletters | 1 | 1,134 households |
| <i>Action #1</i> → Home visits in the urban area by home care professionals | 49 | 141 households |
| <i>Action #1B</i> → Home visits in the urban area by home care professionals | 32 | 85 households |
| <i>Action #2</i> → Home visits in the rural area by home care professionals | 5 | 26 households |
| <i>Action #4</i> → Help desk in rural areas by tele care professionals | 3 | 61 households |
| <i>Action #5</i> → Help desk advice through energy professional HEAs | 4 | 62 households |
| <i>Synergy #1</i> → Barcelona Council ⁹ | 81 | 226 households |
| <i>Synergy #2</i> → Deputation of Barcelona and Maresme Council ¹⁰ | 5 | 26 households |
| <i>Synergy #4</i> → Tele Care | 3 | 61 households |

⁹ The number of HEAs delivering the activity and of households reached are already included in Action #1 and Action #1B.

¹⁰ The number of HEAs delivering the activity and of households reached are already included in Action #2.

| Organization ¹¹ | | |
|-------------------------------------|---|---------------|
| Synergy #5 → Energy cafes with PAES | 1 | 24 households |

6.2 Summary of HEAs training and activities

In total, through the ASSIST project, **138** professionals have been **fully-trained** as **HEAs**, divided into 114 home care professionals from urban areas, 10 home care professionals from rural areas, 10 professionals from telecare service and 4 professionals from energy companies. We had to increase the initial number of trainings and HEAs trained in order to fulfil the vulnerable consumers target as HEAs overestimated the number of users that each of them could involve in real terms in the project.

A summary of the activities of which the HEAs are responsible and they have carried out is reported in the table below, while the detailed analysis of each activity can be found in the next paragraphs.

| Number of Trained HEAs per type | Number of active HEAs per type | HEAs activity |
|--|---|-----------------------------|
| 114 home care professionals from urban areas 10 home care professionals from rural areas 7 professionals from energy companies | 8 home care professionals from urban areas 2 home care professionals from rural areas 4 professionals from energy companies | Soft/engagement activity #2 |
| 114 home care professionals from urban areas | 4 coordinators | Soft/engagement activity #3 |
| 114 home care professionals from urban areas | 54 home care professionals from urban areas | Soft/engagement activity #4 |
| 10 professionals from Tele Cre Service | 3 professionals from Tele Care Service | Soft/engagement activity #5 |
| 4 professionals from energy companies | 1 professional from energy companies | Soft/engagement activity #6 |
| 114 home care professionals from urban areas | 49 home care professionals from urban areas | Action #1 Synergy #1 |
| 38 home care professionals from urban areas | 32 home care professionals from urban areas | Action #1B Synergy #1 |
| 10 home care professionals from rural areas | 5 home care professionals from rural areas | Action #2 Synergy #2 |
| 10 professionals from telecare service | 3 professionals from telecare service | Action #4 Synergy #4 |
| 4 professionals from energy companies | 4 professionals from energy companies | Action #5 |

Not all HEAs that have completed the training course have participated in the whole ASSIST intervention. Some of the reasons are:

- some of their users did not want to participate in the project;
- some HEAs considered there was too much reporting to do and they left the project just after the training;
- some HEAs have stopped working for the employer (p.e home care service) so they did not continue with the project.

¹¹ The number of HEAs delivering the activity and of households reached are already included in Action #4.

6.3 Summary of Soft/engagement activities

In total, 4 soft/engagement activities were carried out at the Spanish level: the geographical distribution was widely representative of the Spanish situation, since there were activities carried out in both urban and rural areas and, furthermore, both large cities (such as Barcelona) and small towns (such as those in the Maresme region) were involved; therefore, the involved consumers can be considered fairly representative of the entire population. Soft/engagement activities are detailed in the following tables.

| Soft/engagement activity #2: Energy café | |
|--|--|
| Activity description | |
| Dates of action | October 2018 – June 2019 |
| Action target | Vulnerable consumers not participating in ASSIST household interventions |
| Geographic dimension | Urban and rural areas |
| Geographic area | Barcelona and Maresme |
| Number of involved users | Potentially 235 households |
| Success rate | 81% |
| Action tools | Factsheets with advice on electricity appliance, electricity bills, low-cost energy efficiency measures, etc... |
| HEAs involvement | |
| Type of HEA | Home care professionals |
| Number of HEAs involved | 11 |
| Foreseen involvement | Organization of the event |
| Feedback from HEAs | Positive |
| Action monitoring | |
| HEAs activity | Number of involved consumers |
| Control group | Not foreseen |
| Monitoring tools | Not foreseen |
| Large control group | Not foreseen |
| Estimated energy savings | 2% with respect to previous situation but not monitored |
| Vulnerable consumers outreach | Short consultancy about energy efficiency and available subsidies for vulnerable consumers. |
| SWOT analysis | |
| Strengths | Energy advice to vulnerable consumers who otherwise would not have access to this information. |
| Weaknesses | Elderly people have difficulties understanding the information and they need a more personalized advice. |
| Opportunities | Possibility of replicating the activity and organizing more group energy advisory events. |
| Threats | Lack of commitment from part of the target audience. |
| Lessons learned and misalignment with original planning | |
| Lessons learned | In some cases, the management of energy bills does not depend on the vulnerable consumers but on their families due to their dependency, so we need the willingness to participate from the families (or the billing manager) instead of the Vulnerable consumers. |
| Misalignment with D5.2 and D5.4 | No |

| Soft/engagement activity #3: Energy advice by coordinators of the Home Care Service | |
|--|---|
| Activity description | |
| Dates of action | June 2018 – December 2018 |
| Action target | Home care professional users |
| Geographic dimension | Urban area |
| Geographic area | Local (Barcelona) |
| Number of involved users | 200 potentially households |
| Success rate | 30% of the households |
| Action tools | Factsheets with advice on electricity appliance, electricity bills, low-cost energy efficiency measures, etc. |
| HEAs involvement | |
| Type of HEA | Home care professionals |
| Number of HEAs involved | 4 |
| Foreseen involvement | Integrated in the trained group's routine work |
| Feedback from HEAs | N.A. |
| Action monitoring | |
| HEAs activity | Number of involved consumers |
| Control group | Not foreseen |
| Monitoring tools | Not foreseen |
| Large control group | Not foreseen for this action |
| Estimated energy savings | 2% with respect to previous situation but not monitored |
| Vulnerable consumers outreach | Short consultancy about energy efficiency and available subsidies for vulnerable consumers |
| SWOT analysis | |
| Strengths | Vulnerable consumers rely more on the coordinators than on the home care professionals. |
| Weaknesses | Coordinators do not have time to advise users in their work routine. |
| Opportunities | To train the coordinators to support home care professionals. |
| Threats | The company providing the home care service should promote the continuation of advice so that the HEAs' knowledge can be exploited by future vulnerable users |
| Lessons learned and misalignment with original planning | |
| Lessons learned | In some cases, vulnerable consumers do not rely on home care professionals for advice on energy bills as they see them as social service to attend their social needs, not their financial aspects. They rely more on the coordinators who do not have time to carry out actions. |
| Misalignment with D5.2 and D5.4 | Soft activity #3 has been incorporated after writing the action plan (D5.4) as it was identified as a good opportunity to reach Vulnerable consumers after planning the actions. |

| Soft/engagement activity #4: Energy advice by HEAs for users that are not participating ASSIST actions | |
|---|------------------------------|
| Activity description | |
| Dates of action | June 2018 – December 2018 |
| Action target | Home care professional users |

| | |
|--|--|
| Geographic dimension | Urban and rural |
| Geographic area | Local (Barcelona) and regional (Maresme) |
| Number of involved users | 868 potentially households |
| Success rate | 81% of the households |
| Action tools | Factsheets with advice on electricity appliance, electricity bills, low-cost energy efficiency measures, etc... |
| HEAs involvement | |
| Type of HEA | Home care professionals |
| Number of HEAs involved | 86 |
| Foreseen involvement | Integrated in the trained group's routine work |
| Feedback from HEAs | N.A. |
| Action monitoring | |
| HEAs activity | Number of involved consumers |
| Control group | Not foreseen |
| Monitoring tools | Not foreseen |
| Large control group | Not foreseen for this action |
| Estimated energy savings | 2% with respect to previous situation but not monitored |
| Vulnerable consumers outreach | Short consultancy about energy efficiency and available subsidies for vulnerable consumers |
| SWOT analysis | |
| Strengths | The emotional bond created between users and home care professionals is considered a positive influence on the behavioural changes of users. |
| Weaknesses | Daily work routines from home care professionals already occupy all time available in the visits and it is complex to perform ASSIST actions during the time of the home visits. |
| Opportunities | Snowball effect from HEAs: Trained HEAs are trained forever which means they will transfer the information beyond the project reaching more users. |
| Threats | The employer of the home care service should promote the continuation of the actions so that the HEAs' knowledge can be useful for future users. |
| Lessons learned and misalignment with original planning | |
| Lessons learned | It is difficult to maintain the motivation of HEAs only with online tools. |
| Misalignment with D5.2 and D5.4 | Soft/engagement activity #4 has been incorporated after writing the action plan (D5.4) |

Soft/engagement activity #5: Energy advice by HEAs for users that are not participating ASSIST actions

| | |
|---------------------------------|-------------------------------|
| Activity description | |
| Dates of action | September 2019 – March 2020 |
| Action target | Tele care professionals users |
| Geographic dimension | Rural |
| Geographic area | Local (Barcelona) |
| Number of involved users | 400 potentially households |
| Success rate | 50% of the households |

| | |
|--|--|
| Action tools | Factsheets with advice on electricity appliance, electricity bills, low-cost energy efficiency measures, etc... |
| HEAs involvement | |
| Type of HEA | Tele care professionals |
| Number of HEAs involved | 3 |
| Foreseen involvement | Integrated in the trained group's routine work |
| Feedback from HEAs | N.A. |
| Action monitoring | |
| HEAs activity | Number of involved consumers |
| Control group | Not foreseen |
| Monitoring tools | Not foreseen |
| Large control group | Not foreseen for this action |
| Estimated energy savings | 2% with respect to previous situation but not monitored |
| Vulnerable consumers outreach | Short consultancy about energy efficiency and available subsidies for vulnerable consumers |
| SWOT analysis | |
| Strengths | The emotional bond created between users and tele care professionals is considered a positive influence on the behavioural changes of users. |
| Weaknesses | Assistance is done by telephone and it is difficult to include energy-saving advice in the call. |
| Opportunities | Snowball effect from HEAs: Trained HEAs are trained forever which means they will transfer the information beyond the project reaching more users. |
| Threats | The employer of the tele care service should promote the continuation of the actions so that the HEAs' knowledge can be useful for future users. |
| Lessons learned and misalignment with original planning | |
| Lessons learned | It is difficult to maintain the motivation of HEAs only with online tools. |
| Misalignment with D5.2 and D5.4 | Soft/engagement activity #5 has been incorporated after writing the action plan (D5.4) |

| Soft/engagement activity #6: Energy advice through newsletters | |
|---|--|
| Activity description | |
| Dates of action | January 2019 – April 2019 |
| Action target | Electric cooperative end users many of them vulnerable consumers |
| Geographic dimension | Urban area |
| Geographic area | Alginet area |
| Number of involved users | 1,794 emails used |
| Success rate | 63% |
| Action tools | Factsheets with advice on electricity appliance, electricity bills, tariffs, energy power adjustments, low-cost energy efficiency measures, etc... |
| HEAs involvement | |
| Type of HEA | Energy professionals |
| Number of HEAs involved | 1 |

| | |
|--|---|
| Foreseen involvement | Creation of newsletters |
| Feedback from HEAs | N/A |
| Action monitoring | |
| HEAs activity | Newsletters |
| Control group | Not foreseen |
| Monitoring tools | Not foreseen |
| Large control group | Not foreseen |
| Estimated energy savings | 2% with respect to previous situation but not monitored |
| Vulnerable consumers outreach | Direct energy advice through the email |
| SWOT analysis | |
| Strengths | Direct energy advice to vulnerable consumers through email. |
| Weaknesses | Elderly people may not have access to an email or may have difficulties understanding the information provided and need a more personalized advice. |
| Opportunities | Easy and massive end users reaching. |
| Threats | Lack of interest in reading the emails newsletters. |
| Lessons learned and misalignment with original planning | |
| Lessons learned | Engaging the end users is always difficult. |
| Misalignment with D5.2 and D5.4 | No |

The main objective of the soft/engagement activities described in the tables above was to address vulnerable consumers through energy counseling either in the home or by telephone and that HEAs could transmit their knowledge to those users who were not participating in ASSIST actions. The types of advice addressed were based on consumer concerns either about home energy use (such as saving energy) or about energy supply bills (including bonuses for vulnerable people such as the Social tariff. In addition, one of the objectives of the activities carried out in Barcelona was to make consumers aware of the city's Energy Advice Points (PAES), a universal and free energy advisory service for all citizens in Barcelona.

The fact that HEAs were social workers was fundamental to achieve the required objective of vulnerable consumers. HEAs, in fact, already addressed the issue of energy poverty in their daily activities and, therefore, know which vulnerable consumers need more support. Furthermore, in most cases, the emotional bond between the HEA and the vulnerable consumer is considered an advantage for counseling.

HEAs have highly valued the training course since it allowed them to learn about topics in which they were not familiar and stated that it was useful not only for advising vulnerable consumers but also for themselves and their family and friends.

We have also learned some lessons, such as the importance of addressing all bureaucratic and privacy issues well in advance, before the actual implementation of the activity in the field. We have also learned that we must ensure a real commitment to carry out the actions by the HEAs before starting the training since many of them attended the training but didn't participate in the activities afterwards because they said it required too much work. Furthermore, we have learned that the type of HEA that has been trained in Spain (middle aged professional from home care services) needs much more personal support because the online environment is not part of their skills and knowledge and in some cases, they have left the project due to such difficulty.

In total, we were able to successfully address almost **5,484** vulnerable consumers, with an estimated **2%** energy saving for each involved family, with respect to their previous situation (although it was not monitored). This occurred thanks to the advice received during the course of the ASSIST Soft/engagement activities.

6.4 Summary of ASSIST Actions

A detailed description of all ASSIST actions carried out at the Spanish level can be found in the following tables.

| Action #1: Home visits in the urban area by home care professionals | |
|--|--|
| Action description | |
| Dates of action | June 2018 – December 2018 |
| Action target | Home care professionals' users |
| Geographic dimension | Local, urban area |
| Geographic area | Barcelona |
| Number of involved users | Potentially 300 households |
| Success rate | 47% of the households involved in the initiative |
| Action tools | Providing personalized advice and solutions on energy efficiency measures and habit change, energy tariffs but also service and support available e.g. If a person is eligible for financial support (social bonus p.e) |
| HEAs involvement | |
| Type of HEA | Home care professionals from public social services |
| Number of HEAs involved | 49 |
| Foreseen involvement | Integrated in the trained group's routine work |
| Feedback from HEAs | Positive |
| Action monitoring | |
| HEAs activity | House visits |
| Control group | Not foreseen |
| Monitoring tools | Ex-ante and ex-post questionnaires and energy bills |
| Large control group | Not foreseen |
| Estimated energy savings | 7% (for those who participate to the initiative) |
| Vulnerable consumers outreach | Dedicated consultancy about different issues: <ul style="list-style-type: none"> - Analysis of energy bills (electric energy bills and/or gas bills); - Information about PAES (Barcelona Energy Advisory Points), the city council energy service for: request of subsidies or request to change energy contract; - Information about behavioural measures and low-cost energy efficiency; In total, 280 consumers have been reached and engaged through at least one of the actions listed above |
| SWOT analysis | |
| Strengths | The emotional bond created between users and home care professionals is considered a positive influence on the behavioural changes of users |
| Weaknesses | Daily work routines from home care professionals already occupy all time available in the visits and it is complex to |

| | |
|--|--|
| | perform ASSIST actions during the time of the home visits. |
| Opportunities | Snowball effect from HEAs: Trained HEAs are trained forever which means they will transfer the information beyond the project reaching more users. |
| Threats | The employer of the home care service should promote the continuation of the actions so that the HEAs' knowledge can be useful for future users. |
| Lessons learned and misalignment with original planning | |
| Lessons learned | It is difficult to maintain the motivation of HEAs only with online tools. |
| Misalignment with D5.2 and D5.4 | Yes, fewer users than expected. A second part of the pilot has been done to get more users. |

| Action #1B: Home visits in the urban area by home care professionals | |
|---|---|
| Action description | |
| Dates of action | May 2019 – January 2020 |
| Action target | Home care professionals' users |
| Geographic dimension | Local, urban area |
| Geographic area | Barcelona |
| Number of involved users | Potentially 152 households |
| Success rate | 56% of the households involved in the initiative |
| Action tools | Providing personalized advice and solutions on energy efficiency measures and habit change, energy tariffs but also service and support available e.g. If a person is eligible for financial support (social bonus p.e) |
| HEAs involvement | |
| Type of HEA | Home care professionals from public social services |
| Number of HEAs involved | 32 |
| Foreseen involvement | Integrated in the trained group's routine work |
| Feedback from HEAs | Positive |
| Action monitoring | |
| HEAs activity | House visits |
| Control group | Not foreseen |
| Monitoring tools | Ex-ante and ex-post questionnaires and energy bills |
| Large control group | Not foreseen |
| Estimated energy savings | 7% (for those who participate to the initiative) |
| Vulnerable consumers outreach | <p>Dedicated consultancy about different issues:</p> <ul style="list-style-type: none"> - Analysis of energy bills (electric energy bills and/or gas bills); - Information about PAES (Barcelona Energy Advisory Points), the city council energy service for: request of subsidies or request to change energy contract - Information about behavioural measures and low-cost energy efficiency; <p>In total, 161 consumers have been reached and engaged through at least one of the actions listed above</p> |
| SWOT analysis | |
| Strengths | The emotional bond created between users and home care professionals is considered positive to influence the |

| | |
|--|---|
| | behavioural changes of users |
| Weaknesses | Daily work routine from home care professionals already occupy all time available in the visits and it is complex to perform ASSIST actions during the time of the home visits. |
| Opportunities | Snowball effect from HEAs: Trained HEAs are trained forever which means they will transfer the information beyond the project reaching more users. |
| Threats | The employer of the home care service should promote the continuation of the actions so that the HEAs' knowledge can be useful for future users. |
| Lessons learned and misalignment with original planning | |
| Lessons learned | It is difficult to maintain the motivation of HEAs only with online tools. |
| Misalignment with D5.2 and D5.4 | Yes, fewer users than expected. A second part of the pilot has been done to get more users. |

| Action #2: Home visits in rural area by home care professionals | |
|--|---|
| Action description | |
| Dates of action | February 2019 – January 2020 |
| Action target | Home care professionals' users |
| Geographic dimension | Regional, rural area |
| Geographic area | Maresme |
| Number of involved users | Potentially 100 households |
| Success rate | 26% of the households involved in the initiative |
| Action tools | Providing personalized advice and solutions on energy efficiency measures and habit change, energy tariffs but also service and support available e.g. If a person is eligible for financial support (social bonus p.e) |
| HEAs involvement | |
| Type of HEA | Home care professionals from public social services |
| Number of HEAs involved | 5 |
| Foreseen involvement | Integrated in the trained group's routine work |
| Feedback from HEAs | Positive |
| Action monitoring | |
| HEAs activity | House visits |
| Control group | Not foreseen |
| Monitoring tools | Ex-ante and ex-post questionnaires and energy bills |
| Large control group | Not foreseen |
| Estimated energy savings | 7% (for those who participate to the initiative) |
| Vulnerable consumers outreach | <p>Dedicated consultancy about different issues:</p> <ul style="list-style-type: none"> - Analysis of energy bills (electric energy bills and/or gas bills); - Information about available subsidies; - Analysis of energy contracts (electric energy contracts and/or gas contracts); - Information about protected energy markets; - Request of subsidies; - Request to change energy contracts (electric energy contracts and/or gas contracts); |

| | |
|--|--|
| | <ul style="list-style-type: none"> - Information about behavioural measures and low-cost energy efficiency. <p>In total, 54 consumers have been reached and engaged through at least one of the actions listed above</p> |
| SWOT analysis | |
| Strengths | The emotional bond created between users and home care professionals is considered positive to influence the behavioural changes of users |
| Weaknesses | Daily work routines from home care professionals already occupy all time available in the visits and it is complex to perform ASSIST actions during the time of the home visits. |
| Opportunities | Snowball effect from HEAs: Trained HEAs are trained forever which means they will transfer the information beyond the project reaching more users. |
| Threats | The employer of the home care service should promote the continuation of the actions so that the HEAs' knowledge can be useful for future users. |
| Lessons learned and misalignment with original planning | |
| Lessons learned | It is difficult to maintain the motivation of HEAs only with online tools. |
| Misalignment with D5.2 and D5.4 | No |

| Action #4: Home visits in rural area by tele care professionals | |
|--|---|
| Action description | |
| Dates of action | September 2019 – February 2020 |
| Action target | Tele care professionals' users |
| Geographic dimension | Regional, rural area |
| Geographic area | Manresa and Vilafranca del Penedès |
| Number of involved users | Potentially 100 households |
| Success rate | 61% of the households involved in the initiative |
| Action tools | Providing personalized advice and solutions on energy efficiency measures and habit change, energy tariffs but also service and support available e.g. If a person is eligible for financial support (social bonus p.e) |
| HEAs involvement | |
| Type of HEA | Tele care professionals |
| Number of HEAs involved | 3 |
| Foreseen involvement | Integrated in the trained group's routine work |
| Feedback from HEAs | Positive |
| Action monitoring | |
| HEAs activity | Help desk and phone call advice |
| Control group | Not foreseen |
| Monitoring tools | Ex-ante and ex-post questionnaires and energy bills |
| Large control group | Not foreseen |
| Estimated energy savings | 7% (for those who participate to the initiative) |
| Vulnerable consumers outreach | <p>Dedicated consultancy about different issues:</p> <ul style="list-style-type: none"> - Analysis of energy bills (electric energy bills and/or gas bills); - Information about available subsidies; |

| | |
|--|---|
| | <ul style="list-style-type: none"> - Analysis of energy contracts (electric energy contracts and/or gas contracts); - Information about protected energy markets; - Information about behavioural measures and low-cost energy efficiency. <p>In total, 89 consumers have been reached and engaged through at least one of the actions listed above</p> |
| SWOT analysis | |
| Strengths | The emotional bond created between users and tele care professionals is considered a positive influence on the behavioural changes of users. |
| Weaknesses | Assistance is done by telephone and it is difficult to include energy-saving advice in the call. |
| Opportunities | Snowball effect from HEAs: Trained HEAs are trained forever which means they will transfer the information beyond the project reaching more users. |
| Threats | The employer of the tele care service should promote the continuation of the actions so that the HEAs' knowledge can be useful for future users. |
| Lessons learned and misalignment with original planning | |
| Lessons learned | It is difficult to maintain the motivation of HEAs only with online tools. |
| Misalignment with D5.2 and D5.4 | The participation agreement originally created between Ecoserveis and COCARMÍ has not developed since COCARMÍ decided not to participate after signing the agreement due to a lack of commitment and interest from their professionals. Still, this pilot has been developed and is with the telecare service, a public service which gives support to vulnerable people, mainly elderly |

| Action #5: Help desk advice through energy professional HEAs | |
|---|---|
| Action description | |
| Dates of action | March 2019 – February 2020 |
| Action target | Energy companies end users |
| Geographic dimension | Local, Alginet area |
| Geographic area | Alginet |
| Number of involved users | Around 1,000 end users identified as vulnerable consumers |
| Success rate | Between 10 to 50 end users per day attend the help desk |
| Action tools | Contract analysis for power and tariff adjustments. Direct advice to end users. Direct savings in the energy bills by adjusting the contracted power. |
| HEAs involvement | |
| Type of HEA | Energy professionals |
| Number of HEAs involved | 4 |
| Foreseen involvement | Integrated in the professional routine work |
| Feedback from HEAs | Positive |
| Action monitoring | |
| HEAs activity | Help desk advice, contract analysis and contracted power adjusted to end users needs |
| Control group | Not foreseen |

| | |
|--|--|
| Monitoring tools | Ex-ante and ex-post questionnaires and energy bills |
| Large control group | Not foreseen |
| Estimated energy savings | 7% |
| Vulnerable consumers outreach | <p>Dedicated consultancy about different issues:</p> <ul style="list-style-type: none"> - Analysis of energy bills (electric energy bills and/or gas bills); - Information about available subsidies; - Analysis of energy contracts (electric energy contracts and/or gas contracts); - Information about protected energy markets; - Request of subsidies; - Request to change energy contracts (electric energy contracts and/or gas contracts); - Information about behavioural measures and low-cost energy efficiency; <p>In total, 171 consumers have been reached and engaged through at least one of the actions listed above</p> |
| SWOT analysis | |
| Strengths | The end users already know and trust the HEAs and come to the helpdesk |
| Weaknesses | Sometimes it's difficult for the HEAs to identify vulnerable consumers |
| Opportunities | End user satisfaction with the company |
| Threats | HEAs may feel that this is an extra work interfering their normal work load. |
| Lessons learned and misalignment with original planning | |
| Lessons learned | Professionals from energy suppliers need more extended training on the social dimension of energy poverty as the identification of this situation |
| Misalignment with D5.2 and D5.4 | No |

6.4.1 Summary of results

The ASSIST **Energy Savings Indicator (ESI)** and **Vulnerability Empowerment Factor (VEF)** have been calculated according to the methodology defined in chapter 4 in D4.4 and briefly summarized in the introduction of this document.

The calculations have been performed on the reference group of **182** consumers (representing **24%** of the monitored consumers), then they have been extended to the entire group of **755** engaged consumers through the ASSIST actions at the Spanish level (Action #1, Action#1B, Action #2 and Action#4).

Finally, the calculations have been combined in order to obtain two overall indicators for the ASSIST project: in Spain, we have decided to assign an equal weight to each parameter (25% each, as there are four parameters), because, from our experience on the field in the Spanish context, no predominant factor related to energy savings and comforts exist for vulnerable consumers.

The results are shown in the tables below.

| Household size | |
|-------------------------------------|------|
| Average ESI (182 consumers) | 4.6% |
| Average ESI (755 consumers) | 4.3% |
| Weighted ESI | 1.1% |

| | |
|------------------------------------|-----|
| Average VEF (20 consumers) | 3.7 |
| Average VEF (20 consumers) | 3.9 |
| Weighted VEF | 1.0 |

| Building type | |
|-------------------------------------|------|
| Average ESI (182 consumers) | 4.4% |
| Average ESI (755 consumers) | 5.0% |
| Weighted ESI | 1.2% |
| Average VEF (20 consumers) | 3.9 |
| Average VEF (20 consumers) | 4.0 |
| Weighted VEF | 1.0 |

| Heated space | |
|-------------------------------------|------|
| Average ESI (182 consumers) | 4.5% |
| Average ESI (755 consumers) | 4.3% |
| Weighted ESI | 1.1% |
| Average VEF (20 consumers) | 3.9 |
| Average VEF (20 consumers) | 3.8 |
| Weighted VEF | 1.0 |

| Heating system | |
|-------------------------------------|------|
| Average ESI (182 consumers) | 4.4% |
| Average ESI (755 consumers) | 4.5% |
| Weighted ESI | 1.1% |
| Average VEF (20 consumers) | 3.9 |
| Average VEF (20 consumers) | 3.9 |
| Weighted VEF | 1.0 |

| FINAL RESULTS | |
|--|------|
| Overall ASSIST Energy Savings Indicator (ESI) | 4.5% |
| Overall Vulnerability Empowerment Factor (VEF) | 3.9 |

As you can see from the tables above, thanks to the ASSIST actions, the engaged vulnerable consumers were able to obtain both energy savings and an improvement of the comfort in their homes.

The actual amount of energy savings at the Spanish level is 61,231 kWh, which corresponds to about 4.5% of energy savings per vulnerable household.

This number is considered good considering that energy advice has been based on proposing measures focused on changing user behavior regarding energy uses. In households with energy poverty, consumption is already lower than the average for all consumers, so 4.5% savings is a good value.

On the other hand, the positive value of the VEF makes visible the empowerment action carried out by the HEAs and shows, in the Spanish context, that the emotional bond between a HEAs and vulnerable consumers is positive when giving energy advice.

6.5 Summary of Synergies

A detailed description of all synergies carried out in Spain within the ASSIST framework can be found in the following tables.

| Synergy #1: Barcelona Council | |
|--|--|
| Synergy description | |
| Dates of synergy | June 2018 – January 2020 |
| Geographic dimension | Urban area |
| Geographic area | Local (Barcelona) |
| SWOT analysis | |
| Strengths | Social services are already involved in projects supporting vulnerable consumers. ASSIST action has allowed to work with Home Care Professional Profile for the first time. |
| Weaknesses | Bureaucracy becomes complex with public administrations which resulted in delays and sometimes inefficiency in the planned actions of the project. |
| Opportunities | The actions taken make easier for the public administration to continue the project once it has been completed, as some of their professionals are already trained. |
| Threats | The company providing the home care service should promote the continuation of advice so that the HEAs' knowledge can be used and transferred to future vulnerable users. |
| Lessons learned and misalignment with original planning | |
| Lessons learned | It is essential to make a good identification and selection of HEAs so they all are aware of the whole action: training+action+evaluation. Strong need to increase awareness on energy poverty and empower operators with emotional bonds with the affected person. Beneficiaries are more confident with the HEA if they know them, so training professionals with a relationship with the user has a bigger impact. |

| Synergy #2: Diputació of Barcelona and Maresme Council | |
|---|---|
| Synergy description | |
| Dates of synergy | February 2019 – January 2020 |
| Geographic dimension | Rural area |
| Geographic area | Regional (Barcelona) |
| SWOT analysis | |
| Strengths | Diputació de Barcelona (DIBA) is already involved in projects supporting vulnerable consumers, but not with home care services or telecare services. After the project, DIBA recognizes the need to empower these professionals to identify situations of energy vulnerability. |
| Weaknesses | Bureaucracy becomes complex with public administrations |

| | |
|--|---|
| | which resulted in delays and sometimes inefficiency in the planned actions of the project. |
| Opportunities | The actions taken make easier for the public administration to continue the project once it has been completed, as some of their professionals are already trained. |
| Threats | Although DIBA identifies the need to continue with the project, the prioritization of resources may affect the effectiveness. |
| Lessons learned and misalignment with original planning | |
| Lessons learned | It is essential to make a good identification and selection of HEAs so that they all are aware of the whole action: training+action+evaluation. Strong need to increase awareness on energy poverty and empower operators with emotional bonds with the affected person. Beneficiaries are more confident with the HEA if they know them, so training professionals with a relationship with the user has a bigger impact. |

| Synergy #4: Diputació of Barcelona and Tele Care Organization | |
|--|---|
| Synergy description | |
| Dates of synergy | September 2019 – February 2020 |
| Geographic dimension | Regional, rural area |
| Geographic area | Manresa and Vilafranca del Penedès |
| SWOT analysis | |
| Strengths | Diputació de Barcelona (DIBA) is already involved in projects supporting vulnerable consumers, but not with home care services or telecare services. After the project, DIBA recognizes the need to empower these professionals to identify situations of energy vulnerability. |
| Weaknesses | Bureaucracy becomes complex with public administrations which resulted in delays and sometimes inefficiency in the planned actions of the project. |
| Opportunities | The actions taken make easier for the public administration to continue the project once it has been completed, as some of their professionals are already trained. |
| Threats | Although DIBA identifies the need to continue with the project, the prioritization of resources may affect the effectiveness. |
| Lessons learned and misalignment with original planning | |
| Lessons learned | It is essential to make a good identification and selection of HEAs so that they all are aware of the whole action: training+action+evaluation. Strong need to increase awareness on energy poverty and empower operators with emotional bonds with the affected person. Beneficiaries are more confident with the HEA if they know them, so training professionals with a relationship with the user has a bigger impact. |

| Synergy #5: Energy cafe | |
|--------------------------------|-------------------------------|
| Synergy description | |
| Dates of synergy | November 2019 – December 2019 |

| | |
|--|---|
| Action target | Vulnerable consumers from PAES (Barcelona Energy Advisory Points) |
| Geographic dimension | Urban area |
| Geographic area | Barcelona |
| Number of involved users | Potentially 90 households |
| Success rate | 27% |
| Action tools | Factsheets with advice on improving comfort during winter and avoiding cold in the home. |
| HEAs involvement | |
| Type of HEA | Home care professionals |
| Number of HEAs involved | 1 |
| Foreseen involvement | Participation in training |
| Feedback from HEAs | Positive |
| Synergy monitoring | |
| HEAs activity | Number of involved consumers |
| Control group | Not foreseen |
| Monitoring tools | Not foreseen |
| Large control group | Not foreseen |
| Estimated energy savings | 2% with respect to previous situation but not monitored |
| Vulnerable consumers outreach | Short consultancy about how to improve comfort during winter and to avoid cold in home |
| SWOT analysis | |
| Strengths | PAES is a city council service that advises consumers on improving home energy uses and saving on energy bills so this energy cafe with the topic "Get Ready for Winter" is a perfect complement to this service. |
| Weaknesses | Elderly people have difficulties understanding the information and they need a more personalized advice. |
| Opportunities | Possibility of replicating the activity and organizing more group energy advisory events. |
| Threats | Lack of commitment from part of the target audience. |
| Lessons learned and misalignment with original planning | |
| Lessons learned | Attendance is higher in existing consumer groups than in open groups |
| Misalignment with D5.2 and D5.4 | This synergy occurred after submitting D5.2 |

The synergies have successfully involved almost **58** vulnerable consumers and we have estimated an energy saving of about **2%** with respect to their previous situation, as in the case of the Soft/engagement activities described above (also in this case the energy savings were not monitored).

6.6 Conclusions

In general, the evaluation of the activities carried out within the framework of the ASSIST project has been positive. In cases where they have not been able to carry out activities, other users have been contacted in order to reach the objective of the number of vulnerable consumers advised. Below you can find a summary of the most important lessons learned:

- **It is effective to reach agreements with the employers:** the decision of reaching agreements with employers in order to ensure the involvement of the HEAs not only during the training but also during the action has been a success. However, it has not been easy to reach vulnerable consumers and involve them in the project due in some cases to their situation of vulnerability; this has been very useful also for the case of Energy professionals, as they have to dedicate part of their daily worktime to address the project needs and specificities;
- **Home care professionals have a very good profile to identify vulnerable energy consumers but they need additional support to manage and give response to situations of energy poverty:** the HEA profile of home care professional has given positive results when it comes to detecting energy poverty, but is not ideal for managing it as it needs support to digest technical and billing issues. In addition, integrating energy intervention into their daily work routine (cleaning, hygienic services...) is difficult due to the limited time they have available for home visits;
- **Energy professionals have a very good technical background but lack the training to correctly identify vulnerable users:** Energy professional HEAs have the necessary knowledge to correctly assess the end users about the appropriate contract conditions for each specific case. Nevertheless, sometimes they find difficult to correctly identify the users in risk of vulnerability. In this sense the training has been very useful for them to get some tack and sensibility to talk to vulnerable users in a way that they can feel more comfortable;
- **In some cases, beneficiaries identified home care professionals as social professionals with no right to interfere in their financial issues (as they considered energy bills):** in some cases, vulnerable consumers do not rely on home care professionals for advice on energy bills. They rely more on the coordinators, but coordinators don't have time to carry out actions;
- **Face-to-face follow-up has been more effective than online methodologies with Home Care professionals' profile:** online follow-up with home care professionals has been complex. This profile (middle aged professional, average of 50 years old) needs much more personal support because they don't have, in general, good IT skills they have left the project due to such difficulty. The need for more face-to-face contact has been detected and, for this reason, the number of face-to-face meetings that were originally planned has been increased. As for the online platform, Moodle has not been a useful tool for this profile, the contact has worked better through phone calls and WhatsApp;
- **Excess of reporting has made the action more inefficient:** in many cases, reporting has been a barrier because of the limited time they have and the difficulty of accessing user information. It should be remembered that vulnerable consumers are elderly people, with dependency or mental health problems and the management of energy bills does not depend on them but on their families. For the energy professional HEAs, accessing to user information was not a problem, as they, most of the time, were already clients. But, anyway, it has been more difficult than expected to get the end users involved in the project, as they were not always keen on spending an extra time on filling questionnaires or even confident to sign the consensus forms;
- **The added value of the emotional bond energy agent (HEA) and beneficiary:** finally, the emotional bond already established between users and home care professionals is highly valued since it has been found that it has been useful for improving the energy use of households and the habits of vulnerable consumers;

- **The effectiveness of continuous advice vs punctual advice:** it has been proved that periodic, continuous advice is more effective than a punctual energy intervention. ASSIST actions through Home Care service, which implies many visits during the lifespan of the intervention, has resulted more effective in terms of energy savings and empowerment than the experience with telecare service which implied punctual advice;
- **Integrating the project activities in the daily working routine was not always easy for the Energy Professional HEAs:** even if the Energy professional HEAs have easily integrated practical project activities (such as assessing the end user, providing energy advice or making quick energy audits) into their daily working routine, it has been difficult for them to find time for the reporting, which they, sometimes, considered to be an extra effort apart from their normal work.
- **Not all ex-post data received could be used in the analysis:** in the case of the pilots carried out with the professionals of the home care service, it was not possible to use all the ex-post data received because many were not complete. The fact that the HEAs are not technical professionals has hindered the correct collection of all the data required for the final results of the project.

7. United Kingdom

7.1 List of performed ASSIST Activities

A summary of all the activities successfully carried out in the UK is shown below, while the HEAs who have been responsible for them is reported in the next paragraphs (a full description of the activities has been detailed in D3.3).

The results of each action in terms of the Energy Savings Indicator (ESI) and the Vulnerability Empowerment Factor (VEF) will be presented, while a more in-depth analysis of these numbers will be shown in D4.7

| Type of activity | Number of HEAs delivering the activity | Number of households /consumers reached |
|---|--|---|
| <i>Soft/engagement activity #1</i> → Advice at community events (health support groups) | 5 | 99 consumers |
| <i>Soft/engagement activity #2</i> → Advice at community events (Springboard Group over 60's) | 5 | 93 consumers |
| <i>Soft/engagement activity #3</i> → Fuel Poverty Awareness Day | 2 | 50 consumers |
| <i>Soft/engagement activity #4</i> → Leaflet posted to targeted low income neighbourhoods | 1 | 14,200 consumers |
| <i>Soft/engagement activity #5</i> → CCP ¹² Drop In Centre | 8 | 600 consumers |
| <i>Action #1</i> → Home visits | 6 | 150 consumers |
| <i>Synergy #1</i> → CAB ¹³ referral to Healthy Homes | 6 | 21 households |

7.2 Summary of HEAs training and activities

In total, there are **23 fully-trained HEAs**, with 6 active HEAs carrying out activities and reporting the results of their activities to the ASSIST partners. Some of the non-active HEAs carried out soft/engagement activities but did not report on outcomes. A summary of the activities of which the HEAs are responsible and they have carried out is reported in the table below.

| Number of Trained HEAs per type | HEAs activity |
|---|--|
| 15 Charity and money advisors (active and non-active) | Soft/engagement activity #1 Soft/engagement activity #2 Soft/engagement activity #3 Soft/engagement activity #4 |

¹² CCP stands for "Caring for People and Communities".

¹³ CAB stands for "Citizens Advice Bureau".

| | |
|---|-----------------------------|
| 8 Non active HEAs (CCP staff who have completed the training but not reported to the ASSIST partners) | Soft/engagement activity #5 |
| 6 Active HEAs recruited from charities, consumer organisations and private energy assessor company | Action #1 |
| 6 Charity and money advisors (active and non-active) | Synergy #1 |

7.3 Summary of Soft/engagement activities

In total 10 different soft/engagement activities took place over the time period. In the UK the HEAs adopted strategies to target different sectors of vulnerable consumers (such as age, disability or low-income consumers) by different methods. For example, to connect with low income families who may be “in work” poor and so unlikely to visit an energy café event, a HEA carried out a postal campaign so that the information was delivered to their door.

For other groups, HEAs visited health support groups that were already established. Severn Wye’s partnership network was crucial to making these connections between HEAs and these partner organisations. Because of the ASSIST training, the HEAs had the confidence to engage with members of the public and very vulnerable consumers on a range of subjects from retrofitting properties to tariff switching and getting the best out of your heating system. The overall message to the client group has been to save energy but without compromising on the heat levels needed for comfortable good health.

In the UK we also had 17 non-active HEAs who completed the training but did not report results of their advice sessions back to ASSIST. This was due to a number of reasons, mainly work pressures which didn’t allow them the extra time needed to fulfil ASSIST’s reporting criteria. However, the non-active HEAs did carry out important work in the drop-in centre for example, where they could refer on to a HEA home visitor and in community events. A summary of the soft/engagement activities carried out at the UK level is shown below:

- 1) **#1 → Advice at community events (health support groups):** this soft/engagement activity was aimed at elderly consumers and those with health issues. HEAs worked with the NHS outreach team to staff the NHS Health Bus in Cheltenham and Gloucester city centres. They also attended a Mental Health and Wellbeing Day and a Dementia Friendly Day. The HEAs gave informal talks and demonstrations of energy gadgets. Energy efficiency factsheets were distributed with advice on electricity appliances, electricity bills, low-cost energy efficiency measures and combating damp & condensation. Having the direct contact with vulnerable consumers, who are likely to have high energy needs, was positive and having face to face contact means that the talks could be delivered at the right level of complexity depending on the knowledge level of the audience.
- 2) **#2 → Advice at community events (Springboard Group over 60’s):** the Springboard Groups with a membership of elderly (60-90+ years old) are run and organised by the members under the umbrella of the national charity Age UK. They operate in several towns across the county of Gloucestershire. HEAs were invited in to make presentations and demonstrate eco gadgets like appliance monitors and hydro-meters. Members of the Springboard Group are elderly but still quite active

and able to make decisions regarding their home energy improvements and tariff switching. HEAs were able to signpost them to other services like the Priority Service Register and for grants scheme for home energy improvements such as Warm Home Fund.

- 3) **#3 → Fuel Poverty Awareness Day:** this soft/engagement activity was not foreseen in the original plan but was carried out in response to NEA's (National Energy Action) National Fuel Poverty Awareness Day. Consumers were able to receive advice and information as part of their everyday activity in their local high street. In this way, the HEAs were able to engage with members of the public that wouldn't normally attend an energy event. As well as being a good opportunity to talk with people who don't normally attend drop-in centres or advice centres, it was good to be able to be responsive to national campaigns and be part of current topics.
- 4) **#4 → Leaflet posted to targeted low income neighbourhoods:** this soft/engagement activity was not originally planned in D5.4 but was initiated at the start of the cold season (October 2019) as a way of prompting people to check the health of their heating systems ahead of winter. It also acted to promote the ASSIST project and HEAs home visit service. Every household received a leaflet "Prepare for Winter" which gave "top tips" energy advice and a contact to the HEAs for more support/information. The number of people taking up action was not able to be verified but assuming even a fairly low rate of 30-35% would mean that between 4,260 – 4,970¹⁴ people taking some form of action. The exact number of vulnerable consumers within the catchment area of the IMD¹⁵ is not available but a high percentage of the residents will be receiving state benefits or be in a low-income household and/or with low energy rated properties. Using the already identified IMD¹⁵ postcodes, the mailout was able to be targeted to those most likely to need support with fuel bills over winter. The mailout was able to reach a high number of vulnerable consumers relatively easily.
- 5) **#5 → CCP Drop In Centre:** originally, the one to one advice surgeries at CCP (Caring for People and Communities) were planned to be part of the ASSIST hard actions with active HEAs working in the drop in centre. However, due to internal changes in CCP, the centre now operates a triage system where consumers are given 1st stage advice and then referred on for more in depth support to the home visiting HEA. The results of this first stage advice are not monitored at present but the results of HEAs training survey carried out from December 2019 to February 2020 should show how effective the ASSIST training has been for non-active HEAs in their everyday work. There is a good contact with target consumers and the drop-in centre acts as an important local resource for low income households. The centre has an open-door policy so people can make self-referrals as well as being referred from other partner organisations.

Overall, the soft/engagement activities have addressed over **4,700** vulnerable consumers and estimated a **2%** energy saving, compared to their previous situation before engagement with the HEA (although it was not able to be monitored).

¹⁴ For the final calculation we have estimated that 31.6% (4,500) of the 14,200 consumers receiving a postal leaflet took some form of action.

¹⁵ IMD stands for "Indicators of Multiple Deprivation".

7.4 Summary of ASSIST Actions

The main activity for active HEAs was in carrying out home visits, providing tailored advice and solutions on energy efficiency measures and habit change in consumers' own homes. At each home visit, the HEAs were able to look at the consumers situation holistically, for example, being able to check boiler settings and property issues such as damp and condensation. They also have the chance to consider the whole household, e.g. the behaviour and habits of other adults and children in the home. A summary of the action carried out at the UK level can be found below:

- 1) **#1 → Home visits:** a full description of this action can be found in D5.3. Although there was a relatively small group of active HEAs (6), they were able to engage with 150 consumers in 90 households. The home visits were particularly successful in energy saving because most consumers had self-referred and contacted the HEAs as they needed support with their energy bills or had issues with their property. As a consequence, householders were very receptive to the recommendations made by the HEAs. It is estimated that these households have saved at least 7% on their energy bills directly attributable to the HEAs activity. In some cases, where kWh data were not available, the energy reduction has been estimated using **Ofgem's Typical Domestic Energy Consumption UK** relating to the change in boiler settings and thermostat controls¹⁶.

It is estimated that, through behaviour change and access to financial instruments (grants) to install measures such as new boilers, new central heating systems, draught proofing or insulation, a 7% energy saving has been achieved through the HEAs intervention. As well as addressing the initial problem, the HEAs were able to demonstrate the use of energy saving gadgets, such as smart plug timers, room hydrometers and appliance monitors (particularly useful for calculating the running costs of old fridges and freezers).

Having good cross referral processes in place is important (where permissible under GDPR regulations) to provide background information on the persons' vulnerability or any potentially difficult situations (e.g. if there are hoarding issues at the property).

7.4.1 Summary of results

The ASSIST **Energy Savings Indicator (ESI)** and **Vulnerability Empowerment Factor (VEF)** have been calculated according to the methodology defined in chapter 4 in D4.4 and briefly summarized in the introduction of this document.

The calculations have been performed on the reference group of **17** consumers (representing **10%** of the monitored consumers), then they have been extended to the entire group of **150** engaged consumers through the ASSIST actions in the UK (Action #1).

Finally, the calculations have been combined in order to obtain two overall indicators for the ASSIST project: in the UK, we have decided to assign an equal weight to each parameter (25% each, as there are four parameters), because, from our experience on the field in the UK, no predominant factor related to energy savings and comforts exist for vulnerable consumers.

¹⁶ <https://www.ofgem.gov.uk/gas/retail-market/monitoring-data-and-statistics/typical-domestic-consumption-values>.

The results are shown in the tables below.

| Household size | |
|-------------------------------------|------|
| Average ESI (17 consumers) | 5.9% |
| Average ESI (150 consumers) | 5.9% |
| Weighted ESI | 1.5% |
| Average VEF (17 consumers) | 1.4 |
| Average VEF (150 consumers) | 1.4 |
| Weighted VEF | 0.4 |

| Building type | |
|-------------------------------------|------|
| Average ESI (17 consumers) | 5.2% |
| Average ESI (150 consumers) | 5.2% |
| Weighted ESI | 1.3% |
| Average VEF (17 consumers) | 1.4 |
| Average VEF (150 consumers) | 1.4 |
| Weighted VEF | 0.3 |

| Heated space | |
|-------------------------------------|------|
| Average ESI (17 consumers) | 4.9% |
| Average ESI (150 consumers) | 4.9% |
| Weighted ESI | 1.2% |
| Average VEF (17 consumers) | 1.5 |
| Average VEF (150 consumers) | 1.5 |
| Weighted VEF | 0.4 |

| Heating system | |
|-------------------------------------|------|
| Average ESI (17 consumers) | 4.2% |
| Average ESI (150 consumers) | 4.2% |
| Weighted ESI | 1.1% |
| Average VEF (17 consumers) | 1.5 |
| Average VEF (150 consumers) | 1.5 |
| Weighted VEF | 0.4 |

| FINAL RESULTS | |
|--|------|
| Overall ASSIST Energy Savings Indicator (ESI) | 5.1% |
| Overall Vulnerability Empowerment Factor (VEF) | 1.5 |

Action #1 has been successful in bringing about a reduction in energy consumption through home visits for several reasons:

- Many of the visits were from self-referred consumers requesting help with their high bills and so would be pre-disposed to receiving advice and acting on it;
- Most of the active HEAs were trained as money advisors who were able to find cheaper energy tariffs in almost every situation. In the UK the market is structured

- so that the onus is on the consumer to search out and switch to a cheaper tariff every 12 months. This can be difficult for elderly and vulnerable people;
- c) The time period covered by the monitoring included the autumn/winter heating season so the HEAs were able to demonstrate the correct boiler controls/thermostat settings during their visits.

The actual amount of energy savings in the UK is 42,200 kWh, which corresponds to about 7% of energy savings per vulnerable household.

7.5 Summary of Synergies

A synergy of cross referrals with Citizens Advice was part of the original ASSIST planning. Severn Wye and Citizens Advice (C.A.) are long-standing partners in the local Affordable Warmth network and have reciprocal training and referral agreements

During the monitoring period 21 referrals were made to C.A.'s Healthy Homes scheme to access financial advice, specifically on debt and benefits. Close working across organisations with a similar client group means that we can access the best advice package for clients to gain the maximum financial benefit.

The synergies have successfully involved almost **50** vulnerable consumers and we have estimated an energy saving of about **2%** with respect to their previous situation, as in the case of the Soft/engagement activities described above (also in this case the energy savings were not monitored).

7.6 Conclusions

Most of the activities that were carried out have followed the original plan with the exceptions of working within the volunteering network of CCP (as detailed in D3.3).

The type of soft/engagement activity carried out by HEAs were influenced by Severn Wye's partnership network with health support groups and our connection with the NHS. Severn Wye has a trusted reputation, and this has helped the ASSIST programme gain access to the vulnerable consumers' membership of these organisations. Many of the events were focused on disabled consumers as research shows that disabled people have higher than average energy needs and are particularly vulnerable to energy poverty.

For targeting low income families, the geographical postcodes from Indicators of Multiple Deprivation dataset was a useful tool in focussing in on the poorest areas, street by street. Although mailouts can be quite a blunt tool, even if only a small percentage of residents responded, it would mean thousands of households taking some kind of action and being more aware of energy efficiency improvements they could carry out.

CCP (Caring for People and Communities) is one of the key partners in the ASSIST project and their drop-in centre in Cheltenham was always planned to be central to the vulnerable consumers outreach. The 1 to 1 sessions did not happen which was outside of ASSIST's or Severn Wye's control, but a large number of Home Visit referrals were made directly from the centre.

In the original activities plan, 60 home visits were expected to be completed by the 6 HEAs. However, the final number is now 90 home visits with over 150 people supported

through this action. The increase in home visit numbers was partly due to the change from 1-1 advice sessions in the drop-in centre to more in-depth support via a home visit.

The final results in terms of the Energy Savings Indicator (ESI), the amount of energy savings (both in kWh and in percentage) and the Vulnerability Empowerment Factor (VEF) have also been presented: they can be considered positive and show the effectiveness of the ASSIST action in the UK. A more detailed analysis of the such results will be presented in D4.7.

8. Final considerations

This deliverable presents the final status of the implementation of ASSIST activities in the different countries involved in the project until the end of the ASSIST project (March 2020).

The partners have chosen a different path for the implementation of the ASSIST activities in their own different countries, using different approaches in order to take into account the intrinsic characteristics of the local contexts and the specificities of the vulnerable consumers involved.

All the activities which have already been completed by the end of January 2020 have been briefly shown here, because they have already been described in detail in D5.3, also pointing out and justifying any misalignment with the original actions plan presented in D5.2 and D5.4.

On the other hand, the remaining activities, which were only partially complete and/or still ongoing at the time of the issuing of D5.3, have been presented in detail for each country with a focus on HEAs involvement, reached consumers, lessons learned and stakeholders feedback; moreover, a SWOT analysis has been performed for each activity, in order to provide a critical analysis of what has been done with its strengths, weaknesses, opportunities and threats.

Although some of the activities which were originally planned in D5.2 and D5.4 were not carried out due to arising difficulties, they were replaced by other activities, but, unfortunately, in some cases the number of engaged consumers was slightly less than the expected target.

However, some HEAs are currently implementing other activities in their countries, building upon the solid base developed within the ASSIST framework: this will hopefully enlarge the number of engaged vulnerable consumers, thus, allowing the attainment of the required target of 750 engaged consumers in each country and increasing the amount of energy savings related to the ASSIST activities; This shows that ASSIST activities will continue to operate also beyond the duration of the project, with some support from the partners in the country, who are currently working towards such a direction.

The overall outcome of the ASSIST activities (Soft/engagement activities, Actions and Synergies) can be considered successful as all partners managed to create a network of trained and motivated HEAs in their countries thanks to the training course developed within the ASSIST framework. The HEAs, in turn, successfully involved and engaged several groups of vulnerable consumers and implemented a series of activities which supported them to be more efficient with their domestic energy consumption habits.

This occurred mainly because the ASSIST partners were able to achieve a strong partnership working with already established networks in their local context, such as, for example, the network of “Energy cutters” in Belgium, the Affordable Warmth Network in the UK or the consumers associations network in Italy. Good connections through these networks means that vulnerable consumers can be signposted or referred to the right kind of support and to the service they need.

This positive outcome of the ASSIST project is also confirmed by the good results of each action in terms of energy savings and other indicators, which have been presented in this document for each country; a more detailed assessment of them will be performed in D4.7, with an explanation and justification of such results, together with a comparison, where possible, among the different countries.

In the table below you can find an overview of the national results shown in the present report for each country.

| | Number of HEAs delivering ASSIST activities | Number of consumers reached with ASSIST Soft/engagement activities | Number of consumers engaged with ASSIST actions | ESI | VEF |
|----------------------|---|--|---|------|------|
| Belgium | 44 | 102,340 | 714 | 3.9% | 0.9 |
| Finland | 68 | ~300,000 | 1,130 | 1.7% | 0.3 |
| Italy | 23 | 8,428 | 618 | 5.5% | 0.4 |
| Poland ¹⁷ | 53 | 2,330 | 1,875 | 4.4% | N.A. |
| Spain | 93 | 5,484 | 755 | 4.5% | 3.9 |
| United Kingdom | 23 | 4,792 | 150 | 5.1% | 1.5 |

| | Energy savings [kWh] | Energy savings [%] |
|-----------------------|----------------------|--------------------|
| Belgium | 99,060 | 7% |
| Finland ¹⁸ | N.A. | 3.9% |
| Italy | 7,799 | 5% |
| Poland | N.A. | N.A. |
| Spain | 61.231 | 4.5% |
| United Kingdom | 42.200 | 7% |

¹⁷ See justification of “N.A.” in the paragraph “5.4.1 Summary of results”.

¹⁸ See justification of “N.A.” in the paragraph “3.4.1 Summary of results”.



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This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 754051